

APR 3 1931

April, 1931

Clinical Medicine and Surgery

Volume 38

Number 4

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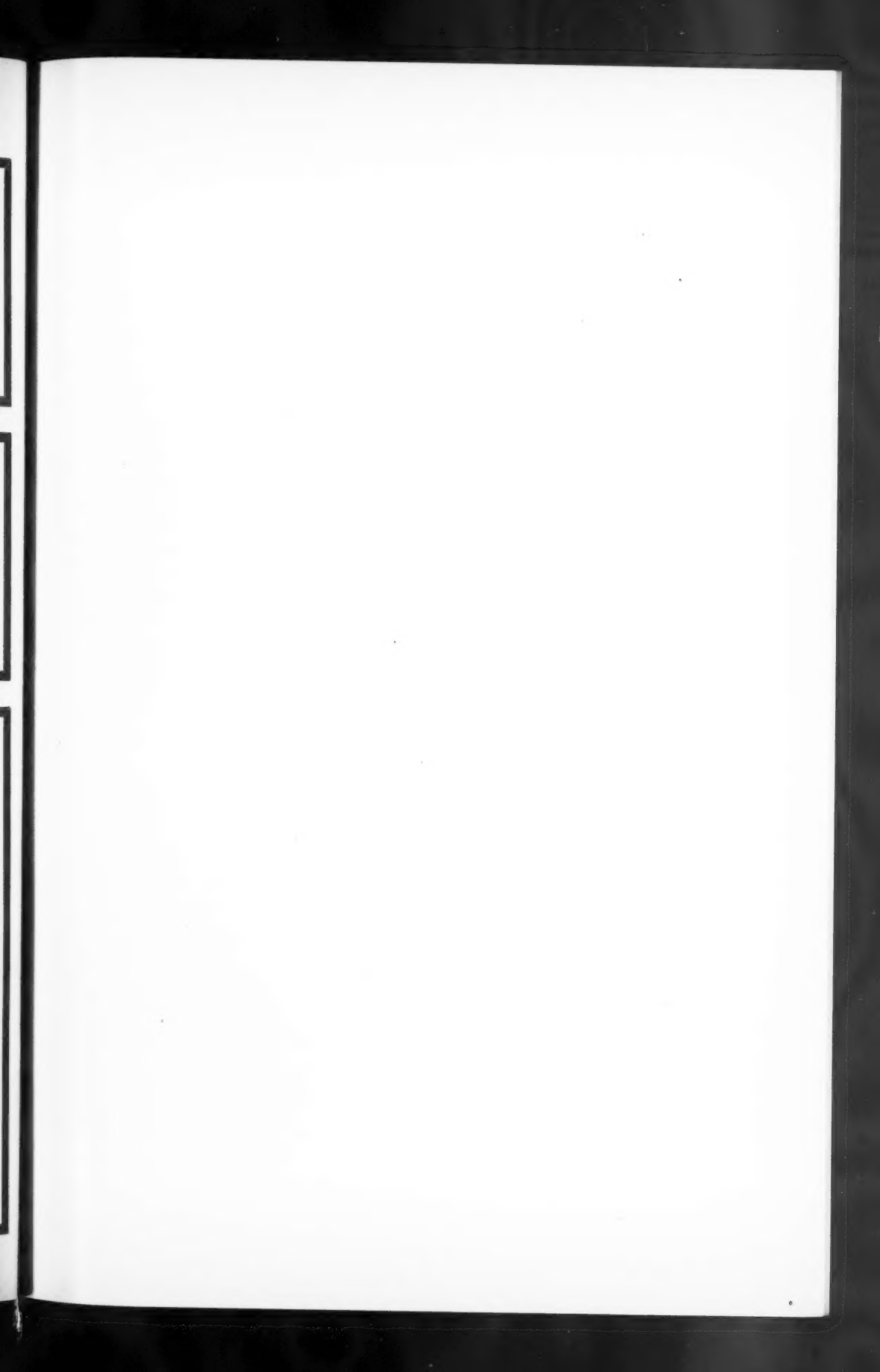
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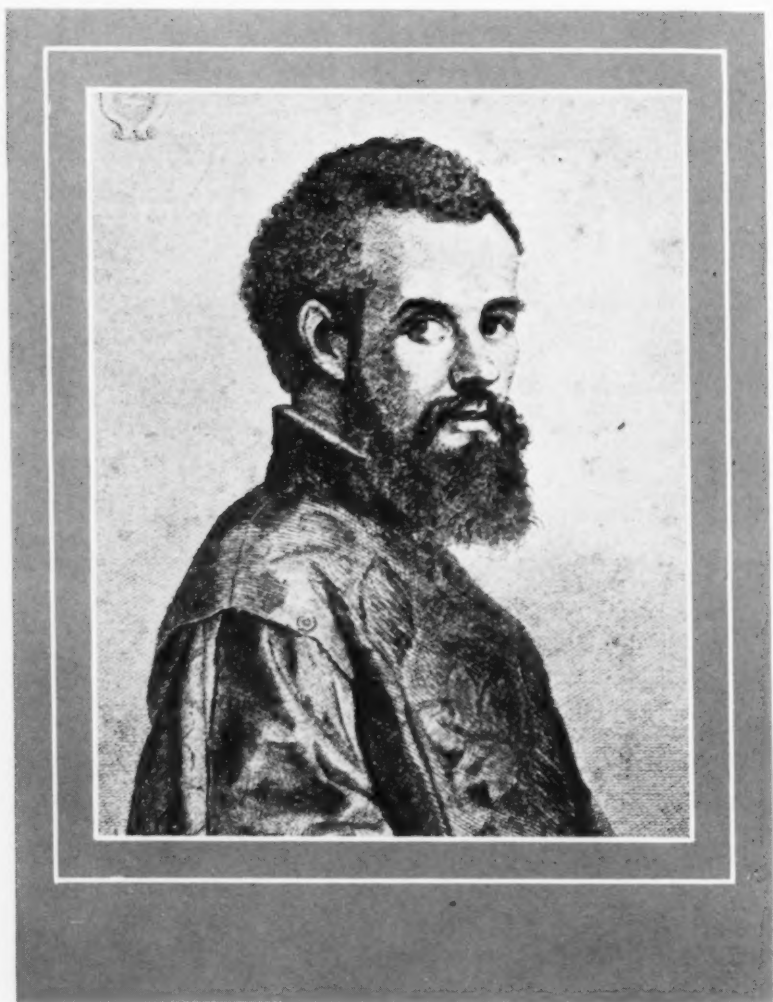
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ANDREAS VESALIUS

CLINICAL MEDICINE AND SURGERY

VOLUME 38

APRIL, 1931

NUMBER 4

Andreas Vesalius

The Father of Modern Anatomy

BLOOD will tell — or perhaps the early environment and family traditions have more to do with determining one's life work. In any case, the great-great-grandfather of Andrew Wesel (whose name was frenchified to André Vésale after he went to France, and latinized to Andreas Vesalius when he reached Italy) wrote commentaries on Avicenna; his great-grandfather taught medicine at Louvain; and his grandfather was physician to Mary of Burgundy.

The wealthy and socially prominent Wesel family was of German origin, but had lived in Belgium for some years before Andrew was born in Brussels, in 1514, so that he is spoken of as the great Flemish anatomist, although his life and work were tied up with the spirit and inspiration of Italian science.

With his background, it would have been surprising if Andrew (or Andreas) had not turned to the study of medicine; and there is no cause for wonder that his skill in dissection was a delight to his teachers during his student days.

In order to understand the picturesque and romantic career of Vesalius, one must remember that, in those times, to question

the authority of Galen, the "Pope of Medicine," was a heresy which led, almost certainly, to professional ostracism or worse, and might end in death, as it did in the case of Servetus. One must also remember that his first teacher of anatomy was the famous Jacobus Sylvius, than whom no more ardent and bigoted Galenist ever trod shoe-leather. Moreover, in the sixteenth century, while deaths were plenty, the ban of the Church against the dissection of human bodies held such sway that students of anatomy had to content themselves largely with work upon the bodies of animals, chiefly pigs.

The mental integrity, sincerity, courage and hot blood of young Vesalius soon turned his thoughts toward Italy, where anatomy was esteemed and given serious consideration; and such were his attainments, that he became the first professor of anatomy at the University of Padua when he was only twenty-two years old. Here his fame spread apace and his lectures and demonstrations were eagerly attended by scientific men from all over Europe. No more stealing of corpses from gibbets and graves now! The professor has ample human material always at his disposal.

And what use he made of that material! Before he was through, he detected and corrected more than 200 of Galen's errors and made an immense number of additions to anatomic knowledge, including the internal structure of the heart, the attachments of the omentum, the five cerebral ventricles, the course of the subclavian and azygos veins, the particulars of the mediastinum and pleura, the existence of the labyrinth of the ear and the tensor tympani muscle and a long list of other matters. So great were his fame and his daring that he was invited to lecture and demonstrate in many universities.

At the age of twenty-five, Vesalius decided to write a book on anatomy which should contain the results of his personal observations, revolutionize the entire science and make every other textbook obsolete. To do this properly it was necessary to have the cooperation of a capable artist to make the necessary illustrations. This was not so easy in those days, for before the development of embalming fluids, a dissecting room was no bower of roses; but he succeeded in interesting Titian's pupil, Jan Kalkar, who produced such anatomic pictures as had never been seen before.

These labors required four years and, in 1543 (the same year in which Copernicus upset the static universe of Aristotle), the appearance of "*De Fabrica Humani Corporis*," a sumptuous work in seven parts, beautifully printed by the scholarly Oporinus, of Basel, overturned the largely imaginary anatomy of Galen and fulfilled its author's high expectations.

But there were thorns among the roses of fame! Constantly surrounded by jealous heresy-hunters who yearned to send him to the Inquisition, and assailed by the abuse of his orthodox confreres, among whom his former teacher, Sylvius, was one of the leaders, Vesalius became disgusted with the game of scientific pioneering and, having no stomach for martyrdom, accepted the highly lucrative and socially exalted post of court physician of Spain, where he

ministered to the maladies of Charles V and Philip II and their families and concubines. He married and settled down to the luxurious but vacuous life of a courtier in a loose and self-indulgent court and his powerful and sparkling intellect went to seed or to fat or both.

But a man like Vesalius could not end his life in such a fashion. There are stories to the effect that this period was brought to a close by jealous rivals who set the Inquisition upon him, and that he started to dissect a man who was not dead, but there is no sound evidence to prove these rather widely accepted rumors. It seems much more probable that when his former pupil, Fallopius, who then occupied the chair which he had vacated at the University of Padua, published a work which reported many new discoveries and pointed out some of the errors of his great teacher, it awakened his slumbering ambition and zeal for research.

In any case, whether as a penance for some misdeed or to escape from the tongue of his shrewish wife and the mentally and spiritually stifling atmosphere of the Spanish court, and to reorient himself in his scientific cosmos, Vesalius set out upon a pilgrimage to Jerusalem, in 1563. While he was there, the brilliant Fallopius died, and the Venetian senate invited Vesalius to resume the chair at Padua, thus again made vacant.

But his rearoused ambition to take up again his work in the world was not to be realized. On his way back, in 1564, the ship in which he was traveling was wrecked on the island of Zante, and Vesalius died there, miserably, of hunger and hardship, leaving an immortal name upon the pages of medical history as one of the most sincere, courageous and successful of those who have fought to free the world from the tyranny of the dead hand of embalmed authority and tradition.

Incredulity is the source of all wisdom.—ARISTOTLE.

MENTAL DISEASE AND THE ENDOCRINES

FOR SOME years there has been a growing impression among psychiatrists who are seriously interested in endocrinology, that there is some definite relationship (if we could discover it) between certain forms of mental disease, notably schizophrenia (dementia precox), and the glands of internal secretion.

Sign posts pointing in that direction are not far to seek. The physical signs of schizophrenia closely resemble those of dysfunctions of various endocrine glands; and definite involvement of these glands is decidedly common in mental patients. The question has been, chiefly, which came first—the hen or the egg; the psychic malady or the endocrine disturbance?

A number of hypotheses have been propounded and some work has been done upon them; but the literature on the subject is not extensive, and a good deal of it is not particularly convincing.

One school of workers feels that the basic endocrine fault is with the gonads, and calls attention to the alleged fact that many, if not most, schizophrenics show stigmata of eunuchoidism. It has even been suggested that testicular transplants would improve the condition.

In CLINICAL MEDICINE AND SURGERY for July, 1928, Dr. Edward H. Williams, of the Psychoendocrine Clinic, Los Angeles, built up a rather impressive structure of presumptive proof of the proposition that an hereditary weakness of the entire endocrine system underlies dementia precox, probably in all cases.

Hoskins and Sleeper reported the results of endocrine studies on 80 schizophrenics (in *Endocrinology* for May-June, 1929), during which they administered preparations of the thyroid, gonads or pituitary to patients whose condition appeared to indicate these substances. In some cases several gland products were administered

simultaneously. Their results, while not brilliant, were decidedly encouraging.

The brains of psychotic patients have been studied fairly extensively and intensively and, except in cases of paresis, the findings have been practically nil, except that the recent practice of encephalography seems to be giving us clues of some kind. Most of the endocrine research appears to have been based largely upon clinical and subjective reports which, while their value is great, if they are prepared in a scientific spirit, do not bring us much nearer to an anatomic explanation in these cases—if, indeed, there be any such.

For some reason, most of the students in this line seem to have overlooked a report made seven years ago which, to us, seems decidedly significant. This is the article on the adrenals in mental cases, by Sir Frederick W. Mott and Dr. Isabel E. Hutton, which appeared in the *British Medical Journal* for July 21, 1923, in which the authors demonstrate, clinically, that schizophrenics have an unusually and rather uniformly low blood pressure (especially in the hebephrenic type); and, objectively, that the adrenal glands, in 100 patients who came to autopsy, were decidedly smaller than normal (the decrease in size being almost entirely in the medullary portion, which had practically disappeared in some cases) and were the seat of marked fibrotic changes and of an increase in the number of nuclei, with changes in their size and form.

There may be, in all of these findings, no basis, as yet, for a rational opotherapy; but we feel that the findings of Mott and Hutton have not been given the degree of consideration that they deserve, and that some men are being held back from the clinical studies which they might make, by the fear that their reports may not be considered "scientific" by certain of the "authorities."

There is room for a great deal more

study, by the laboratory men, of the anatomic changes in the *endocrines* (rather than in the *brains*) of psychotic patients; and there is also room for much carefully-controlled *clinical* research, based upon the reasonably solid, if incomplete, foundations which have already been laid.

Five years of follow-up outweigh fifty years of fumbling.—Robert L. Dickinson.

HARD JOBS

EVERY now and then some young physician, newly in possession of his sheepskin and a license to practice, asks our advice as to where his shiny shingle should first be exposed to the breezes. And we always say, "Go out into some country town, forty miles from the nearest hospital, and learn how to practice general medicine on your own responsibility. After five years of this, if you want to specialize, you will know enough about human beings and their physical and psychic maladies to furnish a basis for sound and enduring success in any line."

The chief reason for this advice is that it is the only way now visible for forcing our modern, hospital-trained medical men to tackle any hard jobs by their own strength and knowledge, and thus progress by meeting obstacles and failures and *overcoming* them.

During his internship, and even his residency, if he spends that extra time in the hospital, the embryo doctor takes certain small responsibilities in simple cases; but if a tough problem comes along he promptly asks for two hundred dollars' worth of laboratory reports and phones for the attending man. That may be fine for that particular patient, but it doesn't put much stiffening in the intellectual or professional spine of the youngster.

The country doctor has to be a specialist on the human skin—and its contents. He has to find out what is wrong with his patient (doing much of his laboratory work in person) by his own efforts, aided

by a stethoscope, a clinical thermometer and a sphygmomanometer; and then, by the sweat of his cerebral hemispheres, to figure out what to do for him. If he is too eager about calling the older men or the city specialists in consultation, his patients will presently decide to save time and money by calling the other fellow in the first place.

It isn't so much what we know that counts (though, of course, knowledge is vastly important), but what we *know how to do*. No man ever won a golf match by studying all the books on the technic of the game. He has to get out and *play* it, hard and often, if he wants to bring in a score anywhere near par; and perhaps a rotten slice and a couple of fozzles, in some important tournament, may put him in the way of correcting his mistakes in technic.

In the young physician's career, it may be a bit rough on the patients who represent the slices and the fozzles, but, in the long run, scores or hundreds of lives may be saved as a result of the extra effort engendered by one that was lost.

The man who never tackles hard jobs—physical, intellectual and professional—and grimly sees them through to a finish, will have a soft body, a soft mind and a soft career. He will be a disappointment to everyone who depends upon him and, when the bloom of his bumptiousness has been rubbed off by repeated failures, a bitter, heartbreaking disappointment to himself.

But he who rolls up his sleeves and wrestles with the tough problems, to a solution, finds, at the end of that strenuous effort, a thrill and an uplift that comes from nothing else in life. He becomes *conscious of his power*. When once a man has had such an experience, he yearns to have it again, and thereafter, those who want to reserve any hard jobs for themselves had better keep them out of his reach, for he will be out gathering them in from far and wide, in order to prove to *himself* that he is man enough to do them.

Let us thank God for hard jobs and for

the indomitable spirit within which can make us

"Feel, not strain in struggle, only thrill."

Hard things are made to go ahead on. Remember the concrete roads.—Harlow D. Grose.

INTESTINAL PUTREFACTION

LOOSE talking, which is an index of or leads directly to loose thinking, is entirely too prevalent in the medical profession to fully back up the claim of its members that they should be classed as scientific men. It is bad enough when certain purveyors of "remedial foods" and quack nostrums fill the air and the advertising columns with statements which, to speak of them charitably, are undigested and unverified, without having the doctors seize upon their careless expressions and, by repeating them, give them the sanction of what appears to be scientific acceptance.

The militant vegetarians, raw-food chewers and other types of health propagandists have repeated so frequently the statement that meat-eaters all suffer dire things from the absorption of putrefactive products from the intestine, that many physicians have come to accept as a fact the statement that all persons who are eating a mixed diet have a gut full of rottenness and are frequently poisoned by the chemical compounds which seep into the circulation from that internal cesspool. The recognized professional literature along this line is immense and highly contradictory.

But now come Leonard and Feirer, writing in the *Bulletin of Johns Hopkins Hospital* for January, 1931, declaring that only two organisms (*Clostridium sporogenes* and *C. putrificum*) are at all regularly responsible for true putrefaction (the breaking down of proteids by microorganisms, with the production of cadaveric odors), and that these spore-forming, obligate anaerobes are entirely and regularly absent from the stools of approximately 20 percent of healthy persons on an average mixed diet, and present to only a very slight degree in

the stools of about another 40 percent of the people they examined. Only about 20 percent of the persons studied seemed even to produce a stool showing pronounced putrefactive properties.

Moreover, these painstaking investigators found, in all of the stools examined, a large preponderance of the saccharolytic or fermentative organisms (which certain types of diet are supposed to develop and favor), over those of the putrefactive type; and that even overwhelming numbers of the carbohydrate fermenters did not interfere at all with the activities of the putrefiers.

As a final contribution, they found by controlled tests, that a nontoxic heptyl derivative of resorcinol, marketed as Di-hydranol, administered by mouth three times a day, in doses of 0.3 to 0.45 Gm., was able to rid the stools of putrefactive organisms completely in from 2 to 18 days; and that, after from 30 to 50 days of such treatment, these organisms had not reappeared four months after stopping the administration of the drug. All this occurred without making any change in the ordinary mixed diet which all these subjects had been eating.

The question of intestinal toxemia has caused the expenditure of barrels of ink and has engendered much bitter controversy, which has not advanced our scientific knowledge of the matter perceptibly, because most of the debate has been based upon personal impressions, emotionally conceived hypotheses or commercial expediency.

This report, while far from being the ultimate solution of the problem, lets a good deal of light into some dark places. We now appear to have, for the first time, a reasonably simple and reliable method for determining, with objective exactness, the presence and degree of putrefactive activity in the bowel; as well as a method for stopping such activity safely and pleasantly.

It now remains for the clinicians to find out whether or not the symptoms ascribed

to "autointoxication" are really due, as most of them suppose, to intestinal putrefaction; and, if not, what does cause them. There seems to be little doubt that inactive or improperly acting bowels do produce deleterious effects upon the human body, but until we discover the exact substances which give rise to these symptoms, it seems rather overoptimistic to believe that we shall be able to control their production and absorption.

Civilization is a disease which carries with it the causes of its own death.—DR. W. A. EVANS.

HELP WITH PERIODIC EXAMINATIONS

LAST October (p. 728) we published an editorial, entitled "Get Under the Tree with a Basket," in which we urged our readers to prepare themselves to make adequate periodic physical examinations or health inventories. We also made suggestions as to how to go about this and promised to render assistance in the matter.

If that editorial was overlooked or has been forgotten, it would be well to look it up and read or reread it, as we are now ready to redeem the promise made at that time.

The complaint has been made that, in many communities, especially the smaller places, the public is not yet educated to the importance of these examinations, so that the physicians who prepare themselves to make them properly have scarcely enough work along this line to warrant the effort and expense involved in such preparation. The answer to this is, *educate the public!*

Busy physicians have scant time to sit down and discuss these matters with individual patients, so the editor of this journal has written a little booklet, entitled "Who's Your Health Banker?", which embodies the things he feels you would want to say to your patients, if you had the time, and this has been made up in such a size that it can be inclosed in an ordinary business envelope.

Physicians who are prepared to make a *real* examination of this sort (for which a

fee should be charged in proportion to the service rendered) can arouse much interest in this subject by distributing these booklets, written in layman's language, to their patients, either in the office or by sending them out with their monthly statements. Those who are not prepared to make such examinations would, of course, be foolish to stimulate an eagerness which they cannot satisfy.

To anyone who is interested, we will gladly send a copy of this booklet, so that he may see what it is like, and we are prepared, as a part of the *Service* for which this journal is famous, to furnish them, in any desired quantity, at the actual cost of printing and handling—which is very reasonable. At a small additional charge, we will print the physician's name and address on the back of the booklet.

If this first effort of ours in this line is favorably received, we plan to publish several more popular discussions of the various chronic, preventable diseases, which may be detected early—when treatment is reasonably certain to produce a cure or arrest of the malady—by periodic health audits, so that the citizens, being informed of the value of these examinations, will apply for them to the person best qualified to make them—the family physician.

Preventive Medicine is the Medicine of the future! In its field will lie the fame and large incomes of the successful physicians of the coming generation and, to a considerable extent, of those now in practice, for this thing is actually upon us, *now*.

Nobody can force even a good thing upon anyone. Here is a logical, ethical method of educating the people as to one of the most modern types of service which the medical profession is preparing to render to them. We are ready and eager to help every reader to a larger realization of his own possibilities, but he must *ask* for that help and use it when given, if it is to benefit him.

We await your pleasure.

LEADING ARTICLES

Neuritis

By WM. E. FITCH, M. D., *French Lick, Ind.*

NEURITIS or nerve inflammation has, in recent years, been subjected to considerable research and therefore has risen to a plane of importance as a disease entity. Only a few years since, the disease received scant attention, but some of the more modern authorities in neurology have recognized its frequent occurrence and numerous manifestations.

It is not an easy matter to classify the forms of neuritis for the purpose of considering treatment. Perhaps the best subdivisions for this purpose are those which have regard to its acute or chronic character, to its diffusion, and to its etiology.

All forms of neuritis may, for clinical convenience, be subdivided into acute, sub-acute and chronic varieties. Neuritis may also be classed as local, diffusing and multiple. A local neuritis is one affecting any nerve or part of nerve, or group of nerves; diffusing neuritis is usually observed in the limbs where, beginning at one place, the inflammatory condition tends to ascend the nerve; multiple neuritis occurs where many nerves or possibly all the nerves of the body may be affected simultaneously. Furthermore, there are varieties of neuritis which may be classed as spontaneous—that is, without known cause—traumatic, toxic, infectious and epidemic or endemic varieties.

Definition: Neuritis is an inflammation of a nerve, marked by neuralgia, hyperesthesia, anesthesia or paresthesia, paralysis, muscular atrophy in the region supplied by the affected nerve and by the abolition of the reflexes. The word neuritis, means an inflammation of a nerve, or of its fibrous sheath or envelope, and is here used to denote the morbid process excited in nerve fibers by any injurious influence, whether

physical, infectious or toxic. Thus used it includes mechanical damage, sometimes amounting to complete section, and also processes which are degenerative, rather than inflammatory, as in the neuritis of diphtheria or lead poisoning.

TYPES OF NEURITIS

In a condition with so varied an etiology as neuritis, it is apparent that the clinical picture is determined, largely, by the character and intensity of the inflammation and the number, distribution and function of the nerves involved. The symptoms of a neuritis, due to toxic or infectious origin, usually develop slowly over a period of weeks, so that acute and chronic types have been recognized. The acute form, rarely observed, readily passes into the sub-acute or chronic type.

In *traumatic* or *pressure* neuritis, the inflammation is often limited to a single nerve trunk; for example the ulnar, the radial or the peroneal, and by some competent clinicians is termed a *mononeuritis*; but in the *toxic* and *infectious* forms, the disease is more widespread and may involve several nerves in one or more plexuses.

Sicard, a French neurologist, a few years ago, described an inflammatory condition confined to the nerve roots, which he considered a true *radiculitis*. The symptoms are very similar to those of neuritis, but may be differentiated from the latter by the segmental distribution of the sensory and motor disturbances.

PATHOLOGY AND ETIOLOGY

A true neuritis is always an inflammation of the nerve sheath or of the septa between the fasciculi, and usually begins

as a perineuritis. The affected nerve becomes reddish, from hyperemia; the sheath also becomes hyperemic and both are somewhat swollen and slightly enlarged and show round-cell infiltration. The nuclei of the sheath of Schwann increase in size and number and the surrounding protoplasm increases in amount; and finally the axis-cylinder also becomes granular and fatty, and is ultimately absorbed. Lastly there may be seen, scattered promiscuously among the more or less healthy fibers, the withered nerve sheaths, containing many nuclei, some granular debris, and pigment.

The causes of neuritis are many and varied. Exposure to cold and overwork are, by some authorities, considered to be predisposing factors, but, in the last analysis, are of importance only in so far as they tend to lower individual resistance. Neuritis is rarely observed as a primary disease, though an idiopathic form has been recognized.

In the majority of instances, neuritis will be dependent upon one or more of the following etiologic factors: (a) traumatism—wounds, blows, direct pressure on a nerve, tearing and stretching which follow a dislocation or fracture, or the hypodermic injection of ether; (b) exposure to cold is a frequent cause, as for example in neuritis of the facial nerve; (c) extension of inflammation from neighboring parts, as in neuritis of the facial nerve, due to caries in the temporal bone; (d) toxic and infectious diseases, metabolic and cachectic states, drugs and chemicals play important etiologic roles.

SYMPTOMS

The clinical history of neuritis varies according to the nerve involved, its location and the extent and the nature of the etiologic factor. As a rule, the constitutional symptoms are slight. The most important disturbance observed is pain, of a boring or stabbing character, usually more pronounced along the course of the nerve and over the area of its distribution. The skin may be slightly reddened, glossy or even edematous, over the area of the inflamed nerve. Loss of function of the muscle to which the nerve fibers are distributed will be observed; motion is painful; and there may be twitchings and contractions. The tactile sensation over the inflamed area will be found to be somewhat deadened, even when the pain is

greatly increased. The pain is variable: Sometimes intense and distressing; again it may not cause much inconvenience. Numbness and formication may be present and the tactile sensation may be greatly impaired. Movement of the extremity may be particularly painful; the muscles are tender to pressure; the skin is usually hypersensitive; sleep is disturbed.

Sensory Symptoms: A prominent feature of nerve inflammation is pain, and the presence of this symptom often leads to the incorrect assumption that nerve pain alone suffices to establish the diagnosis of neuritis. When the disease is limited to the motor neurone, pain is, of course, absent; and it is not always present when the sensory fibers alone are involved. Usually there is more or less discomfort throughout the course of the disease, although the pain may vary in intensity and alternate with brief periods of almost complete absence of pain. The pain is described as of a dull, aching, throbbing character, deep-seated in the bone or joint. Nocturnal exacerbations are frequent, and movements which tend to pull or stretch the nerve are especially painful. Tenderness of the muscles and deeper tissues is frequently a prominent symptom and hypersensitiveness of the skin may be so acute that the weight of the bed clothes becomes unendurable.

Motor Symptoms: Inability, due to pain, to move the affected part is frequently an early symptom, although the motor disability is at first more apparent than real, and due largely to the pain of the movements, rather than to any actual paralysis. In severe cases, there is so much pain that it is practically impossible to secure motion. The muscle is often flabby, atonic, and, in the beginning, may show hyperexcitability, but later exhibits the characteristic reaction of degeneration. The tendon reflexes are often diminished or entirely lost, but often, in the earlier irritative stages, may be slightly increased.

DIAGNOSIS

Under ordinary circumstances, the diagnosis presents few difficulties. The history of the onset; the predominant symptoms and their limitation to one or more of the peripheral nerves; the pain and tenderness along the nerve trunk, elicited by palpation; the character of the pain and the changes in the sensibility of the skin, are pathognomonic symptoms.

In the beginning, with pain as a prominent feature, without motor disturbances, neuritis may be erroneously mistaken for rheumatic or joint affection: and not infrequently the pains of the tabes are mistaken for a "slight attack" of neuritis. The presence of nerve tenderness, the location and duration of the pain and the type of sensory disturbance are all important differentiating features. The disease is chiefly to be differentiated from neuralgia. This depends upon pain and tenderness along the course and distribution of the nerve and upon the limitation of the symptoms to its distribution. Neuralgia is more intermittent and is relieved, rather than aggravated, by pressure.

PROGNOSIS

The outcome of the disease varies greatly, being favorable in mild and in most traumatic types. Mild cases may entirely recover in a few weeks, while severe ones may hang on for many months. The prognosis is, as a general rule, good; though in the acute type (from any cause) the prognosis should be guarded, and occasionally grave. Exposure and chill, alcohol, diphtheria, and beriberi give rise to the most severe cases, and often result fatally by heart failure, failure of respiration or by coagula in the vessels.

Estimation of the probable duration of a case of neuritis is often difficult, and occasionally complete restoration of function is long delayed. The physician should make a guarded statement when predicting an early recovery. Occasionally, a case which at first appears to be a hopeless condition, may, after many months, exhibit a surprising degree of return to normal function.

TREATMENT

The outline of suitable therapeutic measures rests largely upon the ability of the attending physician to make an accurate diagnosis. When the etiologic factor is recognized, its eradication is, of course, the first thought in the treatment of the disease; but the causative factor often remains obscure, although its infectious, toxic or metabolic origin may be suspected. It is of paramount importance, therefore, that certain general directions be given for the supervision of the case, regardless of the location or duration of the disease, though a more explicit therapy will be indicated in the treatment of the local manifestations.

In both the acute and chronic manifesta-

tions of the disease, *rest, diet, sleep, and elimination* are to be carefully regulated and supervised. Even in the milder cases, the patient should be urged to remain in bed, as complete rest will facilitate recovery. The value of enforced rest in bed, as outlined by Weir Mitchell in neurasthenia, is good treatment in neuritis, particularly in the subacute and chronic cases. Frequently a protracted neuritis, which continues irreconcilable to all forms of therapy so long as the patient is up and about, yields promptly to proper medication, supplemented by enforced rest in bed.

Drug Therapy: Measures adopted for the relief of pain, in the subacute and chronic types of neuritis, include the various active counter-irritants. Jensen has had favorable results from the injection of *camphorated oil* beneath the skin in the painful areas, *Schleich's solution*, *cocaine*, and *procaine* have been administered subcutaneously with variable results. *Urea-hydrochloride* has been used as an intra-neural injection by some clinicians, but its use has not been very satisfactory. It should be used with great caution, since there is danger of serious damage to the motor nerve fibers.

The above measures can be supplemented by the internal administration of *antipyretics* and *analgesics*, to relieve pain and secure sleep. *Acetphenetidin*, *acetanilid*, *amidopyrin* and *antipyrin*, each has its advocates and is prescribed, alone or in combination with *codeine*. *Morphine* should be used only in case of dire necessity.

Further medication will depend upon the etiology: *Quinine* will be indicated in malarial types; *mercury* or the *iodides* in syphilitic cases; in gouty patients *potassium iodide*, *colchicum* and the *alkalies* are helpful; in arthritic cases, *mono-iodo-cinchophen* will give pleasing results. In cases complicated by putrefactive intestinal toxemia, thorough elimination is imperative, and for this purpose sufficient sulphated, saline mineral waters should be prescribed, preferably the Bedford magnesia water, in Pennsylvania, and the Carlsbad water, in Europe. The general health should be toned up by *strychnine* and *alterative tonics*.

Dietotherapy: In order to outline an appropriate dietary for neuritis, it is absolutely necessary to have made a correct etiologic diagnosis. The disease is due to a toxicosis of some sort, as lead, alcohol,

gout, arsenic, or as a complication following some of the infectious diseases; or it may be due to a focus of infection, more particularly that accompanying putrefactive intestinal toxemia or auto-intoxication. When the etiologic factor is found and removed, the battle is already more than half won.

It is not necessary to emphasize the role that alcohol plays in the production of neuritis, and that its use should be interdicted. Patients suffering from an alcoholic neuritis are almost always undernourished, and the need for special attention to the dietary is a most important consideration.

The diet in neuritis depends in a great measure upon the nature of the underlying or constitutional conditions. When it is understood that non-traumatic neuritis is almost invariably the result of toxemia, and also how many and varied are the exogenous and endogenous poisons capable of producing inflammatory changes, either in the nerves or their sheaths, it will at once be perceived how varied must be the dietetic treatment of neuritis in general.

Of all the poisons introduced into the body, alcohol ranks foremost as a cause of neuritis. In such a case it is obvious that the patient should not be permitted to take alcohol in any form, unless its sudden withdrawal would be dangerous, when the daily quantity should be gradually reduced as rapidly as possible. Alcoholic gastritis and severe intestinal indigestion frequently accompany neuritis of this type.

If there is fairly good digestive power to the secretions, a moderate protein allowance, of a non-stimulating sort, may be allowed.

The quantity and quality of food permitted at each feeding and the length of the feeding interval will depend upon the digestive power of the patient. When this is good, three normal sized meals may be allowed; when impaired, frequent, small, dry feedings will be advantageous. It is advisable to outline a dietary which is easily digested and which will readily pass into the intestine, and thereby give the maximum degree of rest to the stomach.

Gouty neuritis should be treated as any case of the gouty diathesis, giving a purin-free diet at first and, later on, a dietary containing a low purin content.

When the disease is complicated by putrefactive intestinal toxemia or auto-intoxication, the dietary should be limited to three small meals a day, eliminating en-

tirely those foods most liable to induce putrefactive decomposition in the intestinal tract.

In all cases of neuritis of obscure origin, the patient will either be found in a condition of over- or under-nutrition, and too much importance cannot be placed on the necessity for the regulation of the diet to meet either of these conditions as, without this, other therapeutic measures will be of little avail. In all of these cases, constant attention to the intestinal function is necessary and thorough elimination must be secured, either by the administration of saline and sulphated waters or by high colonic irrigation or both, since, unquestionably, a large number of cases of obscure neuritis have their origin in faulty bowel elimination.

Massotherapy: The action of scientific massage, in the treatment of neuritis, is to increase the flow of lymph and venous blood from the diseased tissues, in order that fresh lymph and blood may take their places. In order that the greatest good may result from massage it should be applied with the least irritation to the nerve trunk. In the beginning, the manipulations should be exceedingly gentle, consisting of little more than light rubbing or stroking of the skin, always in the direction of the venous current. After a few light treatments of this nature, the tenderness will subside, then the stroking may be somewhat more vigorous and sufficient pressure may be used to influence the deeper tissues.

After a few treatments of this mild massage, gentle passive motion of the parts may be undertaken, avoiding most carefully all brusque changes. The operator should always have in the mind the thought of placing the patient in the position of greatest ease and comfort so that he will be accustomed to lie with the limbs extended.

Electrotherapy: All modern authorities are agreed as to the value of electricity in the treatment of neuritis, and electrical treatment should be begun soon after the first massage and passive motion. Some prominent clinicians aver that the galvanic current is superior to all other forms of electricity. Others, equally competent, prefer the faradic current; but in neuritis its power to contract the infected muscles completely is lost or impaired, while, at the same time, its effect on the inflamed

nerves and sheath is that of a powerful irritant.

William Benham Snow, of New York City, had an extensive experience with the *static machine* in the treatment of neuritis. The method which he employed in 1,000 cases met with uniform success wherever the lesions were accessible, and is in accord with the general principles of the treatment of inflammation with the static modalities. The application of the static wave current is made over the lesion, and static sparks and the wave current are employed to overcome the complicating muscular tension.

Dr. Snow's plan of procedure with the patient seated on the insulated platform, was to place a metal electrode of soft, pliable metal directly over the inflamed area, in such a manner that the metal was held in close contact with the skin. The static machine is started at a slow rate of speed, and the spark-gap gradually opened as the toleration of the patient will permit, always insisting that the patient bear a moderate amount of pain. As the pain, with a given spark gap, diminishes, the gap should be gradually lengthened during the 20-minute seance. During the first treatment the patient will experience pain during the whole seance. While this is depressing to the patient, at the time, the relief afforded is so great that he will scarcely complain at the second treatment. The application should be made daily at the beginning, and later, every second day. The results from this plan of treatment are always effective, if the technic is properly carried out and the lesion is accessible.

The static currents deplete and soften swollen tissues, and relieve muscular tension; lessen pain and tenderness; promote absorption of plasma; produce a general equalization of blood currents; lower arterial tension; lessen possibility of local congestion; and hasten normal restitution of the tissues.

Heliotherapy, given by means of an arc lamp, has an action very similar to the ultraviolet rays, with the addition of external heat. The infrared rays are preferable. The heat which they produce penetrates more deeply and the action is milder, but more lasting. The seances should last from 15 to 20 minutes, at the beginning, with the lamp about 20 inches from the patient. I have had very satisfactory results from this treatment in a recent series of cases.

Croumotherapy: All of the alkaline types of mineral waters are valuable adjuvants in the treatment of neuritis. Osler says, "Of the mineral springs best suited for this condition, in this country, may be mentioned those of Saratoga Springs, in New York, Bedford Springs, in Pennsylvania and the White Sulphur Springs, in West Virginia; Buxton and Bath, in England, and Contreville, in France."

The efficacy of the water lies in the dosage and mode of administration. The best results are always secured from administering the water on an empty stomach, hot, and in large quantities. The Bedford magnesia water is particularly indicated where there is an infectious focus.

The action of the natural sodic, magnesic, sulphated mineral waters is salutary: Efficient elimination is secured and toxins which may be a causative factor are eliminated, more especially where the colon is sluggish and inactive.

Balneotherapy: Hot applications, in the shape of hot poultices and hot, wet packs, have long been used in neuritis, to assuage pain. Should the neuritis be due to trauma, an ice pack or ice poultice should be employed locally. Cold magnesium sulphate compresses, at 10°C. (50°F.), may be used for neuritis due to alcoholism.

In neuritis due to toxic foci, the electric cabinet bath is recommended. Our practice in the balneotherapeutic department at Bedford Springs was to place a cold towel around the head of the patient and turn on the current for 14 to 18 minutes, during which time free diaphoresis resulted. The patient was then placed in a "hot-blanket pack" for 12 minutes, gradually cooling off; then a gentle alcohol rub finished the treatment, which was followed by a soothing, gentle massage, as outlined above.

The continuous hot bath, followed by light massage and slow movements of the part, has given relief in some cases. Hot mud packs to the parts, at a temperature of 37.8° to 40°C. (100° to 104°F.) are helpful adjuncts to the balneotherapeutic treatment. There is no question of the advantage of free diaphoresis in neuritis. The peripheral vessels are dilated, allowing free elimination of toxins; profuse sweating lowers blood pressure and relieves cardiac dyspnea; and the degree of heat necessary to produce free diaphoresis relieves the annoying pain.

An Operation for Pilonidal Sinus

By F. D. LA ROCHELLE, M.D., Springfield, Mass.

VERY little is to be found in literature concerning the lesion which is usually called *pilonidal sinus* in this country, but in Europe is more apt to be referred to as *coccygeal fistula*. This lesion, if seen in an uncomplicated state, appears as a small opening, about the level of the sacro-coccygeal articulation at the midline, on the posterior surface of the body. The orifice is round or very slight oval and about 3 to 5 mm. in diameter. A striking characteristic is that the edges are smooth and covered with skin and that no granulations are present. If a probe be passed into the orifice it may progress as far as 5 or even 6 mm., but will then be arrested by a blind ending. Sometimes a mat of hair will be found in the lumen of the sinus.

The lesion, or more properly defect, seldom comes under observation until infection has taken place or some unrelated trauma has caused pathologic conditions to arise. Many individuals carry these sinuses to their graves without their causing any trouble, but, like most such anomalies, their presence subjects their possessor to greater risk of infection or exaggerated results of accidental injury. Commonly, when first seen by the physician, there will be swelling about the orifice, often fluctuating on palpation, and a discharge will be in evidence from the opening, either serous in character or patently indicative of pus formation. Again, the opening will appear to be that of a chronic fistula, discharging an ill-smelling exudate.

ETIOLOGY AND TREATMENT

The exact nature of the condition is still disputed. Most authorities agree, however, that it is of congenital origin, and the most commonly accepted theory is that the orifice opens into a dermoid cyst; that is, it is vestigial in character. Hair and other characteristic contents of dermoids are frequently found in the lumen of the sinus.

The condition is actually much more common than the paucity of literature on the subject would lead one to suppose. It is characterized by two facts: One is that the diagnosis is decidedly hard to reach; and the other that, once recognized, the

sinus is by no means easy to eradicate. Late diagnosis permits infection, once initiated, to persist so long that cure is hard to attain when the proper measures are finally put in action. This makes the treatment of pilonidal sinus a matter of considerable surgical interest.

Though some favorable reports on non-surgical treatment have been made—notably that of Maillard¹, who employed electrical treatment—authorities are agreed that radical incision is the only reliable measure. And unless the sinus and all its fistulous branches are thoroughly removed, little hope of permanent cure can be held out. In following up my own cases I have found that the results of surgery have been by no means universally satisfactory. The bad results I attribute to two circumstances: failure to remove all of the tract and its ramifications; or the occurrence of infection after the surgical incision. No doubt, in some instances, both factors were operative.

The injection of dyes and the passage of a probe may be of help in excising such a fistulous tract. Better, however, is the making of a wide, block incision, placing the knife only in normal tissue and making no attempt to expose the tract itself. This usually permits the eradication of all enfolded skin elements at a single session. As no vital structures approximate this area, abundant tissue is available for making the incision, and it is better to cut away too much rather than too little. If the resulting defect is large, it can be readily dermatized by mobilization of the lateral flaps. Should suppuration take place in the bed of these grafts, a very large scar will be inevitable. Lahey² attempts to remedy this by transplanting a lateral flap to the middle of the sacral region; yet he accepts infection as inevitable, apparently, so his procedure has no other advantage than that of placing the scar in a more convenient location.

The procedure I am about to describe aims to remove the sinus completely, by wide excision; to prevent infection, so that scar formation is reduced to a minimum; and the cicatrix forms in the midline, where it causes the least possible inconvenience.

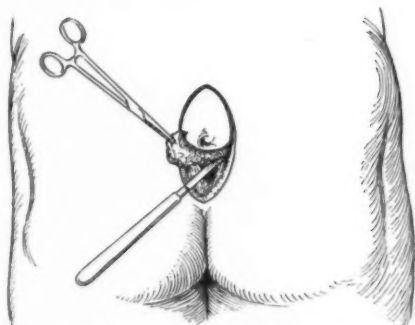


Fig. 1.—Incision used and removal of sinus.

TECHNIC

Anesthesia: While any preferred form of anesthesia may be used, my own decided preference is for sodium amytal as a base, with the associated blocking of the field by injection of a one-tenth of one-percent Butyn solution. Using this method, the procedure is carried out without pain and the patient is able to walk from the operating table.

Preparation of Field: The skin should be scrubbed repeatedly, to secure the utmost degree of cleanliness. Before making the incision, the field of operation is thoroughly prepared with Metaphen solution 1:5,000.

Incision: With one sweep, an elliptical incision is made entirely around the sinus (See Fig. 1). This incision should be at least a half-inch outside the fistulous tract, in perfectly sound tissue. The tissue should be cut down to the aponeuroses over the sacrum. The flap thus made is grasped by a volsellum and rapidly peeled from the sacrum. Care should be taken not to open or touch the diseased tissue. Hemorrhage is likely to be profuse, but is readily controlled, once the diseased tissue has been removed. The wound is then irrigated with Metaphen solution, 1:5,000.

Closure: Two oval "eyes" are made near the middle of a tube 12 inches long and 6/16 inch in diameter. Two stab wounds, of slightly less diameter than the tube, are made laterally, about opposite the middle line of the incision. The tube is pulled through by means of a clamp, so that the "eyes" will rest in the cavity of the wound. If the stab wounds have been made carefully, of exactly the right size, the tube should fit so as to be water-tight. The operative wound is now closed in the usual manner, with subcutaneous catgut sutures

and skin clips. No silkworm gut sutures should be used (see Fig. 2). Once the wound is closed, the cavity is irrigated with Metaphen solution and a wet Metaphen dressing applied over the incision and around the tubes. The tube-end should project several inches beyond the dressing on either side (see Fig. 2).

Postoperative Care: The cavity must be irrigated, hourly, without fail, night and day, with a 1:5,000 Metaphen solution, and the dressing over the incision kept constantly moist with the same solution. Attention to this procedure will prevent suppuration—the cause of most failures to eradicate these pilonidal sinus tracts.

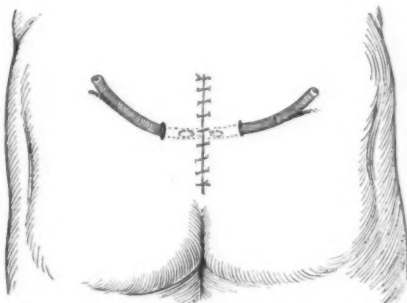


Fig. 2.—Closed wound with drainage tube in place.

Within five to seven days the tube can be removed. Final healing of the tract should take place within the succeeding week or two, if proper attention is given to the case.

This procedure is very simple and easily carried out. Patients who have been caused great distress by the condition can be assured of a cure, in all but a very few cases.

SUMMARY

Failure to heal after operation for pilonidal sinus is due to two causes: incomplete excision and occurrence of infection.

A procedure is described which aims to obviate both these causes of failure.

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1214 Main St.

A Simplified Treatment of Syphilis

(Two Years' Experience with Colloidal Mercury Sulphide-Hille)

By LEO C. DuBois, M. D., Chicago

FOR more than two years I have used no arsenical preparation; neither have I failed to obtain and hold negative Wassermann and Kahn tests in any of the 50 cases treated during that time.

During this period, Wassermann-fast cases have failed to materialize; several cases previously Wassermann-fast have returned to negative and so remained; symptoms have disappeared within two weeks and have not reappeared at any time; in brief, these are the results obtained by a two years' clinical test of Colloidal Mercury Sulphide-Hille.

Bismuth, in my experience, will not cure syphilis. I have seen case after case become Wassermann-fast after long-continued treatment with arsenic and bismuth. The same cases, after a mild course of treatment with Colloidal Mercury Sulphide, became negative for the first time since the initial test. Mercury is the drug in the treatment of syphilis. Other drugs are adjuncts, giving symptomatic relief or useful as alternatives, but mercury remains the greatest and only unreplaceable drug in the cure; and Colloidal Mercury Sulphide-Hille, in my experience, is the most valuable form of potent mercury on the market.

One year and a half ago I reported the results of the use of Colloidal Mercury Sulphide in a series of cases. This report was published in *CLINICAL MEDICINE AND SURGERY* in August, 1929. Since that time, reports from different parts of this country and of Europe have shown very favorable clinical results from this form of mercury.

R. H. Paterson reported results in thirty-two Wassermann-fast cases. All of these had from 25 to 40 weekly treatments with phenarsenamine and none had ever given a negative Wassermann reaction. After

two to six intravenous injections of 3 cc., one injection a week, of Colloidal Mercury Sulphide-Hille, seven were reported as negative, and "in no case was there any sign of reaction, whatever". (Hille, H.: *CLIN. MED. AND SURG.*, 34: 28-35, Jan., 1927).

Winfield Scott Pugh reports six Wassermann-fast cases which returned to negative after a single course of Colloidal HgS-Hille (*CLIN. MED. AND SURG.* 37: 697-699, Sept., 1930).

Dr. Gennerich, professor of dermatology and syphilology, University of Kiel, Germany, states:

"The effect (of HgS-Hille) on early secondary manifestations is very prompt; a little more time is required to heal primary lesions, especially in the case of hyperplastic forms. Also in *lues latens*, with a positive serum reaction, the effect of the treatment is very favorable." He also "repeatedly observed, in patients who were supersensitive to Salvarsan, that the HgS treatment has a particularly good effect upon their general wellbeing. Patients who, for a considerable time, had been pale and weak and felt debilitated, improved remarkably; whereas usually one is accustomed, in the treatment with mercury, to find that the general condition, even with moderate dosage, is lowered or impaired. So far I have observed only two cases in which the use of colloidal HgS resulted, rather early, with medium dosage, in stomatitis. They were cases which already, prior to this treatment, were notoriously sensitive to mercury."

Among other clinicians reporting favorably on results obtained with this product are G. M. Blech (*Med. Jour. & Rec.*); E. D. Levisohn (*CLIN. MED. AND SURG.*, 37: 214-215, March, 1930); Maximilian Kern (*CLIN. MED. AND SURG.*, 37: 218-219; Burr Ferguson (*CLIN. MED. AND SURG.*, Dec., 1929 and Aug., 1930; *Am. Medicine*, April, 1930); W. P. Parks (personal communication); R. A. Verdier (*Eye, Ear, Nose and Throat Monthly*, February, 1931; *Am. Medicine*, March, 1931).

There have also been brought to my attention a few unfavorable results which may be briefly enumerated as follows:

1.—Severe stomatitis, gingivitis or enteritis.

2.—Discoloration of skin following intramuscular injections.

3.—Wassermann reaction increased or remained fixed.

4.—Reaction in tuberculosis too severe.

What do these seemingly conflicting reports mean? Let us analyze them.

1.—*Severe stomatitis, gingivitis or enteritis, following the use of the drug:* Colloidal Mercury Sulphide is mercury, in an exceptionally assimilable form, so naturally overdosage presents symptoms of mercurialism. These symptoms prove the assimilability of this preparation, and mean simply improper dosage—carelessness in handling a potent drug.

2.—*Skin discoloration:* Any drug, improperly injected, will follow the needle on withdrawal and leave a superficial deposit. This discoloration is absorbed very slowly, but is absolutely painless and does not affect the nutrition of the tissues. It may be overcome by pulling the skin to one side when inserting the needle and injecting 1 cc. of air after the solution, to prevent it from following the needle on withdrawal. With this technic, properly executed, no discoloration will follow. At least, no discoloration has followed any injections so made by me.

3.—*Wassermann reaction increased or remains fixed:* In the face of the reports by Paterson, Pugh, Gennerich, Blech, Levi-sohn, Kern, etc., and my own experiences in Wassermann-fast cases, I can explain this report (of which there is but one) only by assuming that the administration of proper dosage at proper intervals, was not carried out.

4.—*Reaction in tuberculosis too severe:* This may well be, as it is the common experience that anti-syphilitic treatment, in the presence of tuberculosis, is very difficult. Besides, the dosage probably was too large. In the face of that, however, is my own experience in treating a tuberculous (pulmonary) case with Colloidal Mercury Sulphide, with excellent results and no untoward symptoms.

In concluding my analysis of untoward reports, I believe that the important factor in the treatment of syphilis lies in the careful study of the individual patient, his

particular phase of the disease, his individual reaction to drugs and the use of the drug adapted to the individual. It is a well established fact, and so mentioned in textbooks, that different individuals have a different tolerance for mercury and other drugs. Too often the disease is treated in a stereotyped form. To treat any condition successfully, we must treat, not a disease, but a certain individual, with his personal reaction equation, in a particular phase of a definite stage of the disease, and with a drug, the reaction of which we know, before we can obtain satisfactory results.

TECHNIC

In the first courses of treatment, I give injections three times a week for three months.

Dosage: In primary or early secondary cases, 3 cc., intravenously (5 cc. for severe types, until symptomatically clear; then 3 cc., intramuscularly). The dosage is, of course, reduced in size or the frequency lessened if symptoms of mercurialism appear. Intravenous medication is the method of choice for rapid elimination of symptoms; intramuscular injections, for more gradual absorption, are less apt to show symptoms and afford more constant medication.

After 3 months, I allow one month of rest; then I make a Wassermann test. If positive (though to date I have had none of these), I should repeat the first course. If negative, I give another three months' treatment; three times a week for one month; then twice a week, intramuscularly, using 2 to 3 cc. at each dose.

Treatment is continued thus during the first year (three months, with one month's rest and repeat), making a Wassermann test at the end of each rest period. The intensity of the treatment depends on the Wassermann tests.

Second year: Four month's treatment; two months rest and repeat. Treat twice a week for one month; then once a week.

At the end of the second year, allow six months' rest, followed by a Wassermann test. If this is negative, allow six months' more rest. If still negative, make a spinal fluid test. If negative, make a Wassermann test once a year, and renew the treatment if it should become positive.

CASE REPORTS

Case 1: McE.; penile chancre; rash over body; throat symptoms; enlarged glands

(inguinal and epitroclear); dark field examination, positive.

Three (3) cc. of Colloidal Mercury Sulphide-Hille were given, intravenously, three times a week. In two weeks the sore had entirely healed, the glands were normal and the rash and throat symptoms had entirely cleared up. The Wassermann reaction was negative after the first course of treatment, and has remained so. There has been no recurrence.

Case 2: This Wassermann-fast case was reported in my first series (see Case 4, in the reference quoted above). She has had no symptoms since the time of the earlier report; her Wassermann reaction has been continuously negative; and *she has recently given birth to her second normal baby since starting the treatment.*

These cases are typical of results in two extreme types of the disease.

The first was an early, acute case, in which the symptoms and signs cleared up promptly and have remained clear. The Wassermann reaction was never positive.

The second patient had been Wassermann-fast for two years or more, but the reaction became negative after treatment with Colloidal Mercury Sulphide, and has remained so. The record of two full-term, normal babies indicates that the mother is now free from syphilis.

Here lies success, and under these conditions the value of Colloidal Mercury Sulphide-Hille will, in my opinion, definitely prove itself as a most important and efficient drug in the treatment of syphilis.

104 S. Michigan Avenue.

Clinical Observations of a Potent Female Sex Hormone

(Preliminary Report of Sixteen Cases)

By JOSEPH S. DIASIO, M.D., *New York City*

PLUGER'S theory¹ of nerve conduction regarding the function of the organs of the body, especially the sexual organs of vertebrates, was first exploded by Berthold in 1849, with the publication of his transplantation experiments, which showed that there is a functional relationship between the testicles and the general organism. This article probably formed the basis of our present knowledge of internal secretions in connection with the gonads. Later, in 1889, Brown-Sequard's interesting experiment on himself, of injecting testicular extract, which gave him so much benefit that he seemed to be quite rejuvenated, aroused extraordinary interest in medical and scientific circles. There was a tendency to attribute the wonderful improvement in health which followed the injections of testicular extracts to psychic effects, but it is difficult to disregard the observations of Sajous², "No one who, as I did, saw Brown-Sequard before and after he had submitted himself to this treatment could stretch his imagination sufficiently to

attribute the change to autosuggestion. He literally looked twenty years younger."

In 1896, Knauer proved, by experiments on castrated animals, that the transplanted ovary exerts essentially the same action as the ovary in its original normal position. The end of the last century marked an era of fundamental experiments by numerous investigators, which culminated in the establishing of the relationship of internal secretions to the genital organs.

In 1910, Steinach succeeded experimentally in transplanting the genital organs of one sex to the other. Halban's experiments on apes consisted of implanting the ovaries under the skin. Menstruation proceeded normally and ceased only when the ovaries were entirely removed. All these conclusive studies served to elucidate the endocrine nature of the genital glands. Frank³ mentions the fact that many investigators believe that there is only one female sex hormone which is responsible for all sex phenomena, including the estrual cycle in the lower animals and the menstrual cycle

CASE NO.	AGE	DIAGNOSIS	CLINICAL COMMENT	PROGYNON TREATMENT	RESULT
1.....	18 yrs.	Hypomenorrhea	Onset of menses at 14; 28 day type; moderate in amount; without pain and of 4 days duration. During past year the periods lasted only 1 or 2 days. No previous treatment.	1 ampoule, intramuscularly, daily for a fortnight.	The next catamenia lasted 4 days and the subsequent periods were also of same length, without further treatment.
2.....	14 yrs.	Menorrhagia	Onset of menses at 11; irregular and lasted 8 to 9 days, with some pain and discomfort. Patient had received various oral medications without success.	1 ampoule twice weekly for a period of six weeks.	After two weeks of treatment menstruation was diminished to seven days, and after four additional weeks of treatment the period was decreased to 5 days, and became more regular and free of pain.
3.....	34 yrs.	Amenorrhea	Menstruation began at 15; intermenstrual interval 28 days and a flow of 4 days without pain. During the past 2 years the periods were absent. The patient made a tour of doctors' offices seeking treatment, which was very varied and futile in re-establishing her periods, prior to my consultation.	1 ampoule twice weekly for three months, was prescribed.	The menses returned, the first period lasting 2½ days. The subsequent menses have been normal, regular and of 4 days' duration without any treatment.
4.....	23 yrs.	Amenorrhea	Onset of catamenia at 15; 28 day type and 4 day flow. Her menstrual history is marked by occasional omission of one or more periods. Amenorrhea for the past 3 months. No previous treatment.	1 ampoule, given intramuscularly, weekly for 3 weeks.	Menses returned and lasted 3 days and have appeared monthly with regularity ever since.
5.....	27 yrs.	Dysmenorrhea	Menstruation began at the age of 14; every four weeks, lasting 3-4 days, with severe pain, especially during the last four years. No pregnancies.	1 ampoule every other day, intramuscularly, for 7 weeks.	The first 2 periods following treatment were characterized by lessened pain and the subsequent periods remained free of pain, according to reports received from patient.
6.....	34 yrs.	Amenorrhea	First menses at 16, occurring every 28 days, lasting 4-5 days. Last menstruation 8 months ago. She has been treated with oral and parenteral medication by several physicians, without success.	1 ampoule was administered twice weekly, by the intramuscular route, for a period of four months.	Menses returned with a three-day flow. The periods have occurred monthly and no additional treatment was required than the one prescribed.
7.....	26 yrs.	Surgical menopause with vasomotor disturbances.	The patient was operated on for bilateral salpingo-oophoritis. Since the operation the patient has had flushes, articular pains and swelling, insomnia, etc.	1 ampoule was given, intramuscularly, twice weekly for six months.	After one month's treatment the patient felt much better and the amelioration progressed so satisfactorily, that, at the end of six months, the treatment was discontinued.

in the anthropoids. It is evident therefore that there are good grounds for seeking a standardized ovarian hormone to combat catamenial irregularities.

Landau, Chrobak, et al., were the first who attempted to prepare a practical organic extract from the ovary, but they failed for the want of an efficient method of standardization, by which the value of the hormone obtained could be tested.

The desired method of testing the sex hormone was conclusively established by the important work of Stockard and Papanicolaou, Long and Evans and Allen and Doisy. The last-named elaborated a process which is the classic method of evaluating the activity of the hormone.

Disorders in menstruation, in the past have been treated by pharmaceutical and mechanical means, which have proved satisfactory in some instances and futile in others. Of late the hormone treatment has been applied abroad with success, not only in cases of menstrual disturbances, but also in menopausal discomforts. The results of this treatment reported in the German literature have been so gratifying that I decided to test the efficacy of the hormone in some of my own cases.

The preparation that I have been testing is Progynon, or female sex hormone. It is a placental extract, standardized according to the original method of Allen and Doisy, and is said to promote the development of the genital organs, as proved by experiments on animals by Dohrn, Scholler, et al.¹

I have employed the female hormone therapy (Progynon) in 16 cases, distributed as follows: secondary amenorrhea, 6; menopausal discomforts, 4; hypomenorrhea, 3; dysmenorrhea, 2; and menorrhagia, 1. All of the patients were treated in the office or in the out-patient department. Two cases of secondary amenorrhea were treated by the oral method at the beginning of this study, and the results were so disappointing that further treatment was combined with the intramuscular route. However, all the other cases were treated parenterally and the oral treatment was used neither per se nor with the intramuscular method. Discouraging results by the oral method have already been commented on in the literature.

All of the intramuscular injections were administered in the gluteal region. The unit dose of one ampoule is 1 cc., containing 20 Allen-Doisy units, while the tablet has 50 Allen-Doisy units. In this study, each case was treated on its own merits and no routine treatment was followed.

The only indication for hormone treatment in this study was diminished ovarian function and genital hypoplasia. Progynon was not employed in cases of tuberculosis, disturbances of metabolism and hypogenitalism caused by general disorders or inflammatory conditions of the genitalia.

SUMMARY

As shown in the chart report of 7 of this short series of 16 cases, the best results were attained in cases of secondary amenorrhea and hypomenorrhea and menopausal disturbances. In these cases, Progynon seems to have a definite effect on the menstrual processes and menopausal discomforts of a vasomotor character, by furnishing the missing hormone and, in cases of hypomenorrhea, by balancing the low hormone level. In the case of climacteric disturbances, it is of particular value in those cases where artificial menopause has been caused, either by operation or by irradiation.

Administration of Progynon by mouth is of doubtful value, and the best results are obtained by intramuscular injections.

One case of menorrhagia is included in this series and the result was satisfactory. Reports in the literature on a large number of cases of menorrhagia are not satisfactory as to the cure or improvement of this condition. In the two cases of dysmenorrhea, the analgesic effect of Progynon was satisfactory in one, but worthless in the other. Many investigators have reported a slight analgesic effect of this preparation in some cases of dysmenorrhea, but none in others.

The results in this short but careful study of sixteen cases are in accord with the findings of other investigators, particularly those of Heynemann⁵, Novak and Last⁶ and Streck.

No injurious secondary effects followed the intramuscular administration of Progynon.

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180 East 111th St.

The Dead Tooth

A Medical and Surgical Problem

By ALONZO MILTON NODINE, D.D.S., L.D.S.R.C.S. (Eng.) L.R.C.P.
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FROM the point of view of clinical medicine, the dead tooth—the pulpless tooth—presents but two aspects: (1) the effects of its retention (medical); and (2) the manner of its removal (surgical).

To the dental surgeon—the dead tooth appears to be of interest from but the mechanical and the cosmetic points of view. He seems to ask himself but two questions: Is the dead tooth strong enough to support a mechanical restoration; and how long may this tooth be maintained in the jaw without discomfort?

The dental surgeon has been censured by many for holding to this apparent point of view. Those who censure him, do so with a disregard of certain fundamental considerations. To disregard these considerations is unjust and the censure unmerited.

The dental surgeon, today, spends from five to seven years, at an estimated cost of about \$10,000, to be taught and trained to practice dentistry. His training, and teaching consists fundamentally of those principles and subjects which are essentially of a mechanical nature—the consideration, establishment and practice of mechanical principles, and the construction and application of mechanical appliances. Practically all the concerns of dental practice, as now arbitrarily conceived and restricted, are innately mechanical efforts and ideas. The attempt even has been made to teach and treat the subject of pyorrhea apparently from the mechanical standpoint.

As the dental surgeon launches upon the uncertain sea of clinical practice, following his large investment for dental education and equipment, he becomes still more acutely conscious that his reputation as a dentist and his success in obtaining a livelihood depend upon his ability to supply and apply mechanical restorations.

Looking at the world as it is today, who can or does expect the dentist to embark upon a program that would knock out the foundations from under the greater part of his income? "Where your treasure is,

there will your heart be also." There are approximately 1880 potential patients per dentist in the United States. Every patient whose teeth are lost and for whom plates are supplied, reduces the number of potential patients for him.

PLATES BY POST

In England, not more than four or five years ago, attention was drawn to the amusing proposal of one man who, in the interests of economy, advertised to supply materials and instruction for patients to take their own impressions, send them to him with the color of the teeth, and he would return the finished plate by post!

The dental surgeon's outlook appears to be colored by the use to which he puts dead teeth. A large part of his practice is devoted to their retention and restoration. His livelihood practically depends upon the dead tooth. Does this shift the responsibility for the effects of their retention from the shoulders of the physician to those of the dentist? It does not.

Were the proposal accepted that the dental surgeon receive the same fundamental medical training that every other medical specialist receives, the responsibility for the retention or elimination of these dead teeth then could be placed where it rightly and logically belongs.

The dental surgeon has been unthinkingly and unjustly blamed if he treats, restores and retains dead teeth; or, on the other hand, he has also been condemned and depreciated if he eliminates them! Is the maker of artificial limbs blamed or held responsible, because an amputation has taken place too soon or been delayed too long, or because the stump is unsuitable or the infection in the stump continues after the use of an artificial limb?

MECHANICAL RESTORATION

In this particular effort of supplying mechanical restorations, the dental surgeon and the maker of artificial limbs stand in somewhat the same position. The maker of artificial limbs has not received a medi-

cal training, although he may possess sound practical experience, useful to the qualified man. The dentist has only a partial medical training. Neither is to be held responsible for the systemic effects of his efforts. This is handed over to the physician.

The understanding and treatment of the effects of the retention and restoration of dead teeth have been illogically, unjustly and deliberately denied the dental surgeon. This is due to a dental educational system, which has so far refused to provide him with the complete medical training, the possession of every other medical specialist. The partial and inadequate medical training which he does receive, is not sufficient for him to appreciate, treat (were he permitted to do so), and feel responsible for the systemic effects of his efforts. Therefore, apparently, he has become interested in dead teeth, because of their restorative and cosmetic possibilities, and their suitability for the insertion, attachment and application of mechanical appliances. This the dental surgeon realizes and rightly deplores.

As a logical result, the dead tooth becomes a medical and a surgical problem, because of the wide variety of its effects, for which the medical man is held responsible and which he is called upon to diagnose and treat.

For the dental surgeon to resent the intervention and dictation of the physician when he orders the elimination of dead teeth, is easily understood. Does anyone blame him for his resentment? Remove the foundations from under any other professional man's income, and would he not resent it?

FULL MEDICAL TRAINING FOR DENTISTS

Were the dental surgeon given the full medical training that every other medical specialist receives, he would more easily occupy the equally high standing, in the public's eye and in the hospital, that all other medical specialists occupy. Then the dead tooth would be eliminated, regardless of the wealth of technical achievement, of mechanical restorations and cosmetic requirements.

The dead tooth is also a surgical problem, and not a tooth-pulling problem. As the effects of dead teeth are a medical concern and problem, so is the elimination of the dead tooth—a focus of infection—a surgical problem. But tooth-pulling is not sur-

gery. It is neither surgical in conception, performance nor results.

When the dental surgeon realizes that tooth pulling is not surgery, he feels the need of additional instruction and experience in what is called *oral surgery*. This he may obtain at a cost of from \$500 to \$1,000. After he has taken a course in oral surgery, he has not received a complete foundation of medical training. What he has received is certain fundamental training and instruction in surgical technic and, perhaps, some detached pathology of the mouth. Even after he has received this training in surgical technic, he has not perceptibly penetrated any further into the domain of medicine than he had before.

Should the dental surgeon, who has received a dental education of five to seven years, desire to study for his medical degree, he finds that his dental education has been so inadequate in the medical subjects, that no credit is given for the work done. He must take the full medical course to obtain his degree! This is true in the United States, notwithstanding dental schools and medical schools may be associated departments of the same universities. In the United States at present, not all the pre-dental educational requirements are lower than the pre-medical requirements. Could any system of professional education be devised with greater unfairness to the individual?

To go a step further, the conception of dentistry, by some, is such that dental surgeons, having both medical and dental degrees, have had the letters indicating their medical qualifications deliberately omitted when their names have appeared in dental society programs!

SYSTEMIC EFFECTS OF DISEASED TEETH

The pages of medical history unfold an almost unbroken recital of the systemic effects of diseased teeth. The interest in these effects has, in the past, ever held the attention of the physician. At times, some unusual circumstance or some combination of circumstances has concentrated attention upon the subject. This interest kindles a fire, and controversy fans this interest into a blaze. It is a few years since Hunter read his fire-kindling paper; the blaze has spread and spread, so that today hardly any department or specialty of medicine is free from an interest in it.

Whether the medicine of the future will

show greater interest or less is uncertain. However, infection of the individual by microorganisms, and the action, reaction and interaction of microorganisms and toxins on tissues and fluids of the body are of considerable concern to the physician and surgeon, who submit evidence to show that organisms and toxins, harbored in dead teeth and sealed in bone, are distributed by the blood stream, lymphatics or along nerve sheaths.

Each department of medicine or surgery can point to histories of cases, whose source of infection has been tracked to dead teeth. Gynecologists and obstetricians can show cases in which puerperal infection has been traced to diseased teeth. Microorganisms from infected teeth have been excreted in the milk of nursing mothers. Cardiologists find dead teeth the source from which serious damage to the heart arises. The aurist, the laryngologist, the ophthalmologist, the dermatologist, the neurologist, the internist, etc., each in his particular field, frequently finds dead teeth contributing to, causing or complicating the disturbance, disorder, or disease upon which his attention is directed. He so frequently finds that the complete and careful elimination of dead teeth and other foci of infection is followed by improvement or cure, that the problem of the eradication of dead teeth—because of their great number—becomes a constant complication of almost every medical effort. And he finds that even the loss of teeth that cannot be replaced by artificial substitutes, is not the disaster he has been led to believe and compares not at all with the damage that the retention of dead teeth so frequently produces.

SURGICAL REMOVAL OF DISEASED TEETH

Dead teeth not only must be discovered and their effects combated, but they must be removed, along with others hopelessly involved and the associated pathologic tissue. To accomplish this, surgery is invoked.

By making a suitable flap and carefully removing the outer plate of bone covering the tooth, it may be tilted out sideways, the associated pathologic tissue seen and immediately removed, the bone shaped and smoothed, the flap replaced with sutures and the wound closed, with or without drainage, as circumstances suggest. In those cases where a plate is to be made, the alveolus is suitably shaped and smoothed

and the gum sutured, so that the plate may be inserted in a comparatively short time.

Regional anesthesia gives freedom from shock and sufficient time for this to be accomplished in a most complete, careful manner and under the best possible conditions. Patients with seriously damaged hearts, lungs or kidneys may have infected teeth removed so carefully by this method, that there may be practically little or no reaction.

SPECIALIZATION IN DENTISTRY

The dental profession, this specialty of Medicine, has become so divided into compartments and super-specialties, and the responsibility of each has become so limited, yet at the same time so attenuated, that the patient becomes lost in a fog of mystification and is unable to see where one begins and the other ends, and understands neither the logic nor ethics to their existence.

This specialization in dental surgery at one time seemed a logical development, resulting in better and more certain treatment of the patient. But as time went on a doubt has arisen in the mind of not a few dental surgeons as to the wisdom of this development and the benefit to the patient. This doubt has come from two different directions—professional practice and economic considerations.

The problem seems to be, how may the different specialties of dental surgery, which is a specialty of Medicine itself, co-ordinate and function harmoniously with each other within the field of dental surgery, and also, at the same time, harmoniously cooperate with Medicine?

The dental surgeon who specializes in one department looks at his goal from a point of view, whose focus is different and may be opposite to or in conflict with that of one, several, or all of the other specialists. It becomes more difficult to secure a synthesized plan of procedure or method of treatment from different minds than were a procedure or plan formulated in one mind.

THE GENERAL DENTAL PRACTITIONER

The dental surgeon who does not specialize may look upon these specialties as efforts so refined that they lose their sense of proportion and balance. He asks why he is not given a curriculum so adjusted and devised, and why his practice can not

be so adjusted that he may render the same service that these specialties render. And he points to those general practitioners who do accomplish, in their individual practices, that which is taught and practiced in the several specialties.

The patient, unless he considers his income to be sufficient to meet the fees of the several specialists, believes that the combined fees are greater than he can afford; and understands not at all, neither

the refusal or reticence to give advice nor the conflict of advice or opinion that he experiences when referred to them.

That there may be experts in any operation or treatment, or in any other human endeavor, is obvious. But this is the result of personal evolution, development or practice, and favorable opportunity, experience and aptitude; and not the result of any prearranged scheme of study or training.

122 East 64th St.

Student Health Service

By EDMUND LISSACK, B.Sc., M.D., *Concordia, Missouri*

UNIVERSITIES and colleges have been known for centuries as developers of the mind. An important function today is commonly overlooked; that is, their efforts toward building up good bodies.

Institutions of higher learning have gone forward in the last few decades. No steps that they have taken have been so significant, however, as the establishment of student health services and improvements in the physical education departments. The value of good health is too manifest to overlook.

An increasing number of institutions now provide a student health service, consisting of an entrance examination (physical) and some form of care in case of sickness, also proper physical education activities. Although the first student health service was established some fifteen years ago, there is now hardly any notable college or university that does not have a well established department concerning itself with the health of its students. It is exceptional now for an institution to admit a boy or girl without a physical examination which, in most instances, is very complete.

These examinations are given, not only to determine the type of physical activities in which the student may wisely participate and the amount of academic or extra-curricular work that is advisable, but also as a protection to the health of the whole student body.

THEORETIC BASIS

Governing bodies are fast beginning to realize the folly of spending large sums

of money on individuals physically unable to make use of the training received. They are also realizing the fact that it is foolish extravagance to allow students to neglect their health to the point at which they will not be able to do satisfactory work.

We are living in a day of efficiency, and no one can be efficient without physical health and vigor. Mere freedom from disease is not enough; there must also be health and strength.

The health problems in our institutions of higher learning have, in many instances, been satisfactorily solved and many changes have been instituted, so that, in not a few cases, students are really better taken care of and lead a more hygienic life at school than they did at home. Not only are courses available in which those interested may learn scientific facts about sanitation, personal hygiene, anatomy and physiology, but there is definite provision for the maintenance and restoration of good health. Schools that do not have a student health service, a modern, though perhaps modest hospital, staffed by good medical men, to care for the health of the students are now exceptional.

Psychologists tell us that the condition of the body affects the condition of the mind and that, in order to have a perfect mind, we must have a body in good working order.

"A sound mind in a sound body" is the ideal, but only too often one is neglected for the other, especially among students. The most glaring sins are committed against the body. Such sinners are not always to blame so much as are their teachers. Teach-

ers not uncommonly think that the only thing that counts is a perfect recitation, even if that recitation has to be prepared at the expense of health. The body revolts, under ordinary conditions, far less frequently than does the mind; and because of this, boys and girls often abuse the body more than they do the mind. The college must see to it that proper training and instruction in the care of the body is given.

"Health instruction," says Dr. Morris, "is most successful when it is combined with health service, because information, gained at a time when a health problem is pressing, is vital and makes a lasting impression.

"Health practice is considered as synonymous with physical activities or physical education, though it should include all the health measures advocated by the health service.

"Throughout the program, emphasis should be placed on the carrying over of the physical activities into later life. Before he has left college, the student should have had the value of a wholesome diet and of regular medical and dental inspections indelibly stamped on his mind; and in addition he should be prepared to be a leader in the movement for better health in his community."

PRACTICAL APPLICATION

At the institution with which I am associated as physician-in-charge of the Student Health Service, three types of service are rendered. These may be described as the physical examination and advice on entrance, a dispensary service and a hospital service.

Upon entrance, each freshman is given a thorough physical examination and his history is recorded. If he is physically normal, he is sent through the regular channel. If he is abnormal, he is placed under the physician's care. Among the common types of deformities prevalent among students are spinal curvatures, round shoulders, flat chests, flat feet, protruding abdomens, lack of muscle tone, acne, malocclusion and dental cavities.

As in the case with the men, the freshman women have the same thorough examination, to discover their individual needs and the corrections to be made.

The physical examination is carefully made and recommendations are offered in such a way as to inspire confidence. As the physical examination proceeds, definite values are placed on degrees of physical perfection or imperfection, so that when the examination is completed the whole is summed up in the form of a definite score. This places the student in competition with himself and with fellow students. This

definite measuring-stick, in the form of a score, is quite as necessary in college health programs as is the system of grading in the other forms of school work.

Leisurely private consultations, following the physical examination, are urged and offer an opportunity for real health guidance. In these conferences, problems of physical, social or emotional health are revealed—problems that are not often discovered in the course of the regular physical examination.

Corrections are advised where needed. Proper individual exercises, massage, vaccine treatments and dental care, as the case may require, are instituted.

Just how much treatment is to be included in a college health service is a problem. We do not attempt to treat conditions that require prolonged care. The treatment is mainly in the form of first aid, acute illnesses and preventive therapy.

Close cooperation is maintained (and to good advantage) with the department of physical education, by furnishing the instructor complete reports of the conditions that are best corrected by properly guided physical exercises; with the department of English, to correct speech defects; with the department of home economics, to assist those who have problems in nutrition. Other departments, at times, have perplexing problems that are due to physical causes and can best be solved by cooperating with the Health Service.

In the dispensary service, which ideally is intimately associated with the hospital, less serious injuries, slight wounds and other ailments are treated. The proper care of a slight wound, a clean dressing on a boil, a little attention to a beginning cold or a cough, in many cases prevents serious complications. Students are urged to consult the Health Service for trivial things and to use it freely.

In the hospital are kept only those students who are sick enough to be in bed. This not only assures their adequate care, but protects the well students, who live in intimate association with them, from the imminent danger of contagious and infectious diseases. This is a relief for the parents, to know and feel that their children, sick and away from home, are adequately cared for by those trained for the work and need not live in the same house or even in the same room with some one who may be contracting a contagious disease.

Parents might well find out about the

health program of the school which their children may attend. Today, trained educators are unanimous in their assertion that the organization of a school is not complete unless definite provisions are

made for the care of the sick and injured students and the proper supervision of their health, by the best medical skill available.

The Law of Cycles in Evolution

By MORTIMORE REYNOLDS, M.D., Yates Center, Kansas

THAT "there is nothing new under the sun" has long been accepted as the wisdom of a sage—a fixed truism, not to be disputed—yet nothing could be farther from the truth, for each infinitesimal fraction of time sees the entire universe in a constant, resistless cycle of change. One moment finds nothing as it was the moment before; nor will any succeeding moment ever find it the same, for the constant force of atomic energy is slowly and perpetually, though imperceptibly, driving us forward in a never-ending cycle of evolution.

Each succeeding cycle brings us some new condition, some undiscovered principle, some new thought, a revolutionizing truth, advancing us in the scale of intelligence, helping us to a better understanding of nature's bounteous provision for our comfort and leading us to a more perfect form of government.

While each succeeding cycle may seem to present a repetition of its predecessor, nevertheless we are in error in believing them to be the same in any particular, even to the most minute detail. The same snowflake falls but once, and even a grain of sand is not as it was the moment before, yet our faculties of perception are so deficient that we are unable to detect the change. We fail to take into account the inexhaustible varieties in nature's store.

In order that we may more clearly understand the important part in evolution exercised by this great law, acting in harmony with the other two great laws of force—the law of gravitation or attraction, and the law of dissipation or repulsion—let us take, for example, the most humble flower of our garden. Who of us has not, at some time in our early childhood, planted the tiny seeds of some favorite flower and, after watering it, expectantly watched to find its head peeping through the soil, care-

fully attending it to maturity; often standing in rapturous admiration of its beautiful perfection, studying its intricate delicacy, enjoying its appeal to the senses, only to return and find the flower gone and in its place a withered stem, bearing only the elements of its own reproduction—a capsule of tiny seeds like the ones we had planted? It had run its short course. Its cycle in life had been completed.

Again, who, in his youth, has not let his imagination follow his vision far into the wonderful realm of space to play among the stars, vaguely reasoning, vainly hoping that he might some day be able to comprehend their meaning and solve their mysteries; little realizing that he was witnessing the same phenomena in nature which he had witnessed in the flower, and that all within the scope of his vision is, at some point of individual existence, traveling the same road as the flower?

All things are obedient alike to the same unchangeable laws—the law of attraction, the law of repulsion and the law of rotation or the law of the cycles, that law which marks the line of the respective influence of the other two great laws; all alike unceasing, unchangeable and everlasting. This is the only rational explanation of a creation that will admit the scrutiny of scientific investigation.

With the operation of these laws we may successfully account for not only a continuous creation through the constant force of attraction, but a continuous disintegration and dissipation through the opposing force, as a natural sequence. The instant the one loses the power of ascendancy, the operation of the other begins, while the law of the cycles enters only to mark the end of the influence of the one and the beginning of the other, yet it is just as essential, just as funda-

mental and just as powerful as the other two great laws. It is the law that combines to hold the planets in their places and mark a measure of their existence. This is the law that marks the measure of life of all individual existence within the scope of our knowledge, not only on earth, but throughout the universe.

THE CYCLE OF A SUN

Let us consider how these laws apply, in the light of our scientific knowledge. Take, for the purpose of our study, our sun which, we know, is only one among many suns, each occupying its own position in limitless space; each surrounded with its own radius of attraction and energising its own sphere in the great cosmos of existence; each governing its own planetary system of worlds, perhaps with its disciples and toilers and, mayhap, its own egotistical philosophers, vainly trying to solve the mystery of their own existence.

In our study of the sun, let us lose sight of the immensity of its importance to us and bend to our subject as we would to a problem in mathematics or chemistry. Science reveals this mighty inferno to us as a vast conflagration of matter, drawn to its vortex by the law of gravitation. To be consumed? No, nothing is ever consumed or wasted in nature, but merely to admit of chemical disintegration, to be scattered or dissipated in the form of nebulae by the force of expansion; to be again united by the force of attraction that first drew it to destruction. Thus the life cycle of a sun, perhaps that of a world, is run, measured only by the time consumed in its dissolution and rehabilitation.

But the sun must and will continue so long as there is within its radius of attraction sufficient matter, planets if you please, to supply that mighty cauldron with fuel for its flame. When that fuel is exhausted, its energies will begin to wane, its fires to die and its influence to cease. Its cycle, too, will then have been run and its light gone out.

An immense period of time must, of course, elapse to accomplish this. But what is time? The human mind is incapable of conceiving or even imagining the meaning of time, and has only invented an imperfect means for the measuring of the simpler cycles of the smaller planets. Time is like space; we cannot think of it in terms of reasoning, nor can we imagine a limit of the endurance of time, any more

than we can think of a limit or boundary of space. Then why consider time? The life-cycle of a world, or even a sun, means no more, in respect to the element of time, than the life-cycle of the flower or a blade of grass.

When we attempt to grasp the significance of the measureless existence of time, or try to imagine the immensity of space, and reflect that the light from some of the stars, traveling at the rate of approximately 187,000 miles per second, has scarcely reached the earth, we stand appalled; our minds cease to function and our imagination is stricken with a palsy.

THE EARTH

Let us then consider a planet more familiar to us, and more in keeping with our powers of reasoning. Let us see how these fundamental laws apply to the world on which we live. In respect to time, we are convinced that our world is young; that, compared with many other planets about us, we are still in our infancy and have only cooled sufficiently to develop a crust or corticle on our exterior, sufficiently strong to hold our shape, and but for the constant gyroscopic action through the law of rotation, operating in conjunction with that of gravitation, we would fly to pieces or be flattened out, for our interior is yet a molten mass of chemical activity.

That our world is young, we ascertain only by comparison with conditions existing in what our scientists are pleased to term cold planets, where chemical and thermal factors are not conducive to life, as we know it, although we have evidence that life has, at some time, flourished but, true to the law of cycles, has reached its climacteric and disappeared. Reasoning from this hypothesis, we must assume that the cold planet is already in a stage of decadence—that it is soon to drop into that abyss of matter from whose mighty furnace new worlds are cast, there to help supply the energy necessary to its own reproduction, the perpetuity of its own existence.

Though our world is young, we find it teeming with myriads of differentiated species of organic life. Our reason tells us that our world is probably only one among thousands—perhaps millions—of other worlds that are inhabited: Perhaps not all by human beings; possibly some are inhabited by beings superior to man. We know them to be inhabited, however, through

the application of the principles of natural laws familiar to science; for the same laws, working in the same chemical elements, with the same environments, will produce the same results, no matter in what part of the universe the union of forces is accomplished. Since we know that matter is indestructible and the element of life inexhaustible, we may safely reason that the same elements which enter into the composition of our planetary system are present throughout the universe. Our world, then, is but an integral part of a homogeneous whole, in any part of which, when we find the same conditions existing, we should find identical results maintained.

A WORLD-FACTORY

Now let us return to a further consideration of this mighty world-factory we call the sun. Our astronomers tell us that, although the sun is roughly estimated to be a million times larger than the earth and contains more matter than all the rest of our known solar system, its density is only about one-fourth that of the earth, and a small fraction of that of some of the planets supposed to be cold. What else could we reasonably expect, in a planet as yet in a liquid or gaseous state, where the law of attraction and the law of expansion are so nearly equal, in a conflict of energy so intense?

Some contend that this vast conflagration of energy is not being maintained by the accretion of matter to the sun, but is due to the shrinking of the substance of the sun within itself: In other words, the ascendancy of the force of gravity over the opposing force—the victory of the law of attraction over the law of expansion. Admitting this to be true, it only denotes the beginning of the retrogression of this mighty luminary, simply marking an epoch in the cycle of its existence.

The spectroscope reveals to us the presence within the sun of matter identical with that composing the other planets of the system, thus warranting the conclusion that it is but a great aggregation of identical matter in a different state of solution.

Though our astronomical observers may not have witnessed great aggregations of matter rushing to the sun to replenish its fires, our time for observation has been so short and our instruments so deficient, that this alone could not be offered in disproof of the operation of a natural law. Though our historical knowledge dates back some

thousands of years, and we in this short time have observed nations rise, wax powerful and decay, and have even witnessed whole peoples vanish from the earth, all this denotes little when we consider the magnitude of the universe and the time that must elapse in the making of a world.

Admitting that they may be right who say that the sun has ceased to attract fuel to its flame, is it not patent that it is on the return journey of its cycle, that its fires will constantly diminish until its power over the planets will cease to hold them to their orbits, and they, losing their stability in space and obedient to the law of attraction, will rush together in the formation of a new sun? Will not the force of impact start the conflagration in a new world-factory?

Having, I believe, established the rationality of the application of these elementary laws of force in the government of the sun; and having, I think, shown that the life cycle of a world, or even a sun, differs from that of the flower only in respect to the element of time, let us follow these laws down the scale of existence and see how like a mathematical deduction every movement of nature, from the highest to the lowest, falls in beautiful obedience to these three fundamental laws.

Let us watch the earth in its daily revolution on its axis, observe its yearly circuit around the sun in the return of our seasons, note the mathematical precision of the return of visiting heavenly bodies to our scope of vision, and then watch every known movement within the scope of its domain; see the ocean currents as they flow from the equator to the poles, only to return and start again; watch the surface of the sea, lifted as it were by attraction to the moon, rush to the shores as the power is released, in a never-ending circuit of tides; observe our great rivers traveling back to the oceans from whence they were lifted by the attraction of the sun, to be released in tiny raindrops in an endless cycle of borrowed energy; then note our lofty mountain ranges slowly but surely crumbling under the influence of the raindrops, to be carried back to the oceans, whose former place they now occupy. It is evident that, where our cities now stand, the sea once rolled; and where our ships now traverse the seas, continents have been swallowed up and civilizations, perhaps, have perished.

One has only to contemplate the thousands of tons of mineral substance daily carried by our rivers, and watch the receding shore lines of our vast bodies of water, to realize that the cycle of a continent awaits the activity of the tiny raindrop, and that we too shall be compelled to bow to the inevitable when the ocean shall reclaim its own.

Of course, all these changes admit of modification through the agency of other forces which may intervene and, for a time, defer or retard them in their course;

but ultimately the completion of their cycle is as certain as the continuance of time. The laws of nature admit of no modification or abatement.

When the lofty summits of our mountain ranges, in humble submission to these unalterable laws of change, shall have been leveled and carried to the seas by the energy from the sun, and new continents shall be lifted up to take their places, the cycle of a continent will have been completed, and a new race will have been developed to inhabit our remade world

Encephalitis Lethargica Complicating a Six-Months Pregnancy

(Report of a Case)

By ALBERT J. VALIBUS, M.D., Edwardsville, Pa.

MRS. A. G., a well-developed woman of the active, aggressive business type, age 35 years, married 10 years, mother of two children, a girl of 6½ years and a boy of 5 years (both deliveries were normal), walked into the office with her niece.

Chief Complaints: Severe headache; sharp pain behind the right ear; chills; and aching in the limbs for past two days.

Family and previous history, negative.

PHYSICAL EXAMINATION

Her cheeks were full and slightly flushed, as though from exposure to a cold wind, and there was a herpetic eruption over her upper lip. Her lips were parched and pale-red and there was evidence of mild gingivitis. Temperature, 99.2°F.; respirations, 20; pulse, 86; blood pressure, 112/70.

Throat: Anterior pillars slightly reddened; atrophic, chronically inflamed, submerged tonsils; grayish mucus on posterior pharyngeal wall; pharynx slightly reddened and dry.

Eyes: Both pupils slightly dilated, with left pupil smaller in size; light reflex, sluggish; accommodation reflex, normal; diplopia, as a symptom, was not complained of, but was obtained by examination of the accommodation reflex.

Ears: No evidence of bulging or middle ear disease; external palpation, with firm pressure over mastoid tips, particularly on

right, revealed no evidence of superficial pain or tenderness.

Neck: Cervical glands, small and tender along sternoclavicleidomastoid muscles.

Lungs and Heart, normal. Pulse rate, increased but regular.

Abdomen, full and distended, with slightly oval shape; skin dry and hot, but of normal color; tumor mass palpated about one finger-breadth below the umbilicus; fetal parts outlined, with mild fetal movements; fetal heart sound faintly audible; last menses, July 12th, 1929; felt life, December, 1929.

DIAGNOSIS AND THERAPY

A provisional diagnosis of influenza of cerebral or nervous type, with complicating pregnancy, was made. The patient was advised to go to bed and the following treatment was prescribed: 1/10 grain (6.4 mgm.) of calomel every 15 minutes until 1 grain (64 mgm.) had been taken, followed 4 hours later by a full bottle of magnesium citrate. This was to be followed 2 hours later, if awake, by 10 grains (.65 Gm.) of Dover's powder with warm tea and lemon; then acetphenetidin and salol, 2½ grains (0.16 Gm.) each, every 3 or 4 hours thereafter until the pain in limbs and headache were relieved.

Instead of going to bed, as directed, the patient accompanied her niece to a picture show, and collapsed when the performance

was about half over. I was called to her home and found all previous symptoms exaggerated: temperature, 100.4°F.; pulse, 92; respiration, 21. On the second day the patient was unimproved and appeared toxic: temperature, 99.5°F.; pulse, 90; respiration, 20.

On the third day the patient showed definite symptoms of encephalitis lethargica, which diagnosis was verified by Drs. Edward W. Bixby, Wilkes Barre, Pa., diagnostician of Wilkes Barre General Hospital, and M. C. Rumbaugh, Kingston, Pa., attending surgeon, Wilkes Barre City Hospital, who were called in consultation at various times. The husband was informed of her critical condition and told to be prepared for any eventuality. The temperature at this time was 101.5°F.; pulse, 140; respiration, 36. To counteract the rapid pulse rate and low tensions, Digalen 1 cc. and spiritus frumenti, 1/2 fluid ounce (15 cc.) were alternated every 4 hours, by mouth, and 1 1/2 grains (96 mgm.) of phenobarbital was prescribed for restlessness. Previous treatment was still carried out.

On the fifth day, on my own initiative, I arranged a consultation with Dr. Leo C. Mundy, Wilkes Barre city health physician, who verified the diagnosis of encephalitis lethargica.

On the sixth day, examination of the abdomen disclosed no fetal movements and no fetal heart sounds were audible; the mother still had pronounced symptoms of diplopia and nystagmus, with external ocular strabismus. Mental symptoms were more pronounced. At the husband's request, consultation was arranged with Dr. C. A. Judge, of Forty Fort, Pa. His diagnosis was encephalitis lethargica; he, likewise, could detect no fetal heart sounds and intimated the possibility of miscarriage of a dead fetus: temperature, 100°F.; pulse, 130; respiration, 30.

On the seventh day, samples of urine and blood were taken and the former was found to contain a heavy trace of albumin and many pus cells.

After receiving this report, I commenced

the administration of Nephritin tablets, 4 after meals and at night, to assist renal activity and to promote normal elimination without any violent stimulation. I feel that, due to the action of the Nephritin, the patient was saved catheterization, which is a common procedure in the majority of cases of encephalitis lethargica. Daily routine chemical tests for albumin were carried out at my office, albumin becoming less and less until, at the end of four weeks, the report showed the urine to be normal.

The blood report did not show any marked variation from normal, with the exception of a lessened number of erythrocytes (3,850,000) and a slight leukocytosis, with 84 percent of polymorphonuclears and no eosinophiles.

On account of the lowered resistance of the body, due to the infection, and thinking to stimulate the hematopoietic organs, I prescribed Protonuclein, administering 4 tablets 3 times a day. This medication was continued for about six weeks, when the following blood report was normal.

One month from the onset of the illness the patient was able to leave her bed; was strong mentally, keen and free from lethargy. The appetite was excellent, digestion good and, except for slight pallor, there was no evidence of illness.

Examination of the abdomen revealed an active fetal heart and the patient stated that she felt life. Two months after her recovery, I delivered the patient of a full-term, 8 1/2 pound female infant, the labor being normal, and she nursed the child, with complementary feedings of artificial milk. The baby thrived and, today, is over the average weight, active and the picture of health.

On the other hand, the mother, six months after the onset of the disease, began to lose her cheerful disposition and now presents a picture of mental dullness, together with a state of depression and despair. There is also a mild form of Parkinsonian syndrome.

106 Church St.

PHYSICAL THERAPY AND RADIOLOGY

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A STITCH IN TIME

ONE of the most important duties and responsibilities of the physician when treating an acute infectious illness is the prevention of complications and sequelae.

Reviewing the course of any chronic or fatal infection, particularly one of the epidemic exanthems, we always arrive at a localized and more or less limited area of acute inflammatory reaction, from which all the subsequent extensions proceeded. Each complication arose from a previous area of infection. Reversing the telescope, we discern in every acute localized infection the long train of successive complications by metastatic extension, which may be expected should the case proceed by the process of "expectant treatment"—a learned synonym for doing nothing at all.

The great strategist, whether military or medical, anticipates what the enemy intends to do and forestalls him by more than ample preparations.

Every small infection should, therefore, be treated with the seriousness and vigor demanded by a potential complication of life-menacing proportions. Every coryza should be viewed as a potential sinusitis, otitis media, mastoiditis, bronchopneumonia, endocarditis, arthritis, etc. To palter and underestimate the enemy's resources is to lose

the battle when victory is attainable with a minimum of effort and cost.

Adequate local attack, combined with fortifying possible points of expected attack, go hand in hand. In measles, for example, adequate sanitation of nasal and oral mucous membrane is combined with phototherapy of the facial sinuses, the ears and especially the chest. Acute gonococcal infections are always to be treated by electrotherapy of the prostate and vesicles, and, where these organs are already infected, then to prevent systemic extension. It may be interpolated here that the best agent for decongesting, both here and anywhere that stasis exists, is heat, combined with the cellular massage by the positive, high-tension, surging current from Holtz or Wimshurst generators. In this case, condenser electrodes, shaped for rectal introduction, are used.

The only contraindication to the use of converse heat is confined pus. This rule is not applicable to cavities with natural avenues of drainage.

In the application of phototherapy, the radiant-heat lamp, with a suitable reflector, is applied as closely to the bare skin as is tolerable to the patient or, in the case of infants or unconscious patients, as may be

tolerable to the back of the attendant's hand held for one minute on the patient's bare skin. The radiation should be continuous, day and night, until the acute infection is conquered, and on other areas where extension is feared for an hour at a time, two or three times a day.

No protection is required for the eyes, as the eyelid is ample protection against the visible radiation affecting the retina. Indeed, phototherapy is a specific for conjunctivitis, even when caused by photochemical

radiation from the ultraviolet portion of the spectrum.

The essence of the "stitch in time" is, not only to attack vigorously the local infection, no matter how insignificant it may seem, but also to fortify any tissues likely to suffer from an extension of the infection. Of the agents at our command, active hyperemia, by means of phototherapy or electrotherapy, ranks as the most effective.

F. T. W.

Duodenal Stasis*

By ALBERT F. TYLER, B.Sc., M.D., Omaha, Nebr.

THE term duodenal stasis is used to describe a condition in which there is a retardation of the rate at which food passes through the duodenum. Normally the contents of the stomach enter the duodenum, in a small amount, at the time each gastric peristaltic wave reaches the pylorus. The pyloric sphincter then relaxes for an instant and the food passes through. There is normally a slight hesitation in the first portion of the duodenum, but very rapid passage through the second and third portions.

When retardation of the passage of food through the duodenum has reached the stage of a clinical entity, there can usually be demonstrated a dilatation of the duodenum, proximal to the point of constriction. In hypersensitive patients, however, one may have an opportunity to make a diagnosis before dilatation has occurred. At this time the observer can see the food swishing back and forth in the duodenum, as peristalsis and antiperistalsis alternate. In some cases the food may even regurgitate from the duodenum into the stomach.

Bloom and Arens¹ state: "Stasis is not a clinical entity, but is evidence of a duodenitis, secondary to cholecystic disease, duodenal ulcer, chronic appendicitis, colitis and other gastrointestinal conditions. Various symptoms, such as abdominal distress, nausea, vomiting, headache and belching,

usually seen in all gastrointestinal lesions, are the subjective evidence of duodenal antiperistalsis, objectively demonstrated by stasis. Observation at operation corroborates, in a high percentage of cases, the various conditions in which duodenal stasis is found. Chronic duodenal ileus due to mechanical obstruction is rare."

Judd and White², reporting the cases from the Mayo Clinic, make the statement that only two cases of duodenal obstruction due to bands had been seen.

On the other hand, J. Morley³ reports a case with so much dilatation of the duodenum that the roentgenologist had interpreted the findings as due to "hour glass stomach". Surgical exploration, however, proved the distal pouch to be a dilated duodenum.

ETIOLOGY

Duodenal stasis is most frequently found in thin, enteroptotic young women. In this type the stasis may be due entirely to ptosis of the stomach and transverse colon. The ligament of Treitz is a short, fibrous band, having its origin from the posterior abdominal wall and its insertion into the small bowel at the junction of the duodenum with the jejunum. This ligament seldom elongates, no matter how great the degree of ptosis, consequently the loop of duodenum may sag sufficiently to produce a sharp angulation at the attachment of the ligament of Treitz. This produces more or

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less narrowing of the lumen of the duodenal tube.

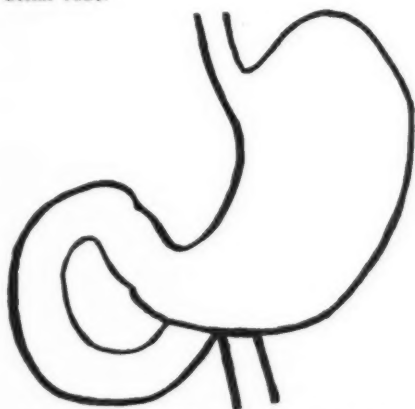


Fig. 1.—Drawing (after Toldt) showing the normal stomach, duodenum and first portion of jejunum.

In other cases it has been demonstrated that the ptosis of the transverse colon pulls the superior mesenteric artery taut across the lower portion of the duodenum, thus producing stenosis of the lumen by pressure. In one case observed by me (referred by Dr. Richard Smith), a previous appendectomy had left adhesions about the head of the cecum and the abdominal scar, to which the omentum was firmly attached, in such a manner that the superior mesenteric artery and mesenteric root were pulled taut across the duodenum.

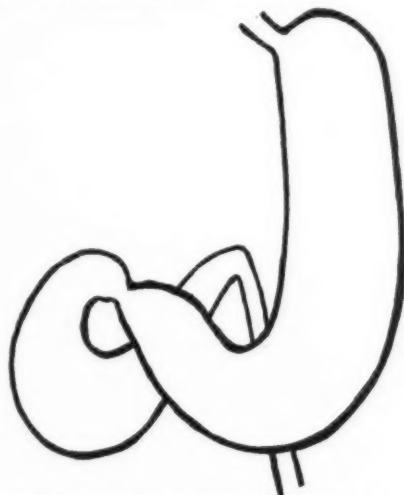


Fig. 2.—Drawing illustrating stomach and duodenum of the enteroptotic individual with kink at duodeno-jejunal junction and dilated duodenum proximal to the kink.

Henske and Best⁴ report a case of duodenal stasis with dilatation, in an infant of 15 months. The constriction, in this case, occurred at the duodeno-jejunal junction and was due to pressure of the superior mesenteric artery and mesenteric root, brought about by "incomplete rotation of the intestine on its mesenteric axis. Normally the intestine rotates 270 degrees on this axis in the counter-clockwise direction." In the case reported, the intestine had rotated only 160 degrees. "There was definite partial obstruction at the duodeno-jejunal angle, caused, not only by the twisting and fixation of the jejunum on its longitudinal axis between the duodeno-jejunal flexure and point B (upper jejunum), but also by the dragging of the transverse colon."

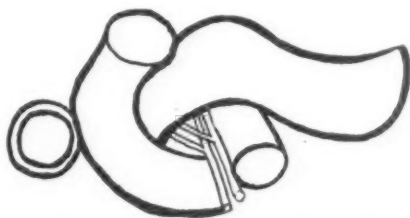


Fig. 3.—Drawing (after Morris) showing relationship of superior mesenteric vessels to duodenum, jejunum and pancreas.

This baby died a toxic death, similar to that seen in adults with obstruction high in the small bowel. Dragstedt⁵ demonstrated that "the toxic materials which entered the blood stream and caused sudden fatal toxemia had their origin in the intestinal tract, as a result of the activity of proteolytic intestinal bacteria. They are not absorbed through a normal intestinal mucosa, but are absorbed when the blood supply of the intestinal wall has been disturbed by great distention."

At other times, adhesions directly to the duodenum may be the cause of the stasis. Cholecystitis, with adhesions to the duodenum, is a frequent cause. In one case, a band of adhesions was attached to the third portion of the duodenum, so as to produce a sharp kink.

SYMPTOMS

Patients with duodenal stasis complain of nausea and epigastric distress, with a dragging sensation. They frequently vomit. Some regurgitate bile. The work of Dragstedt explains the reason for the toxic symp-

toms of malaise, nausea, epigastric distress and migraine, seen in patients suffering from duodenal stasis. These symptoms are less pronounced than where complete obstruction occurs, but may be severe enough to cause death, as in the case reported by Henske and Best.

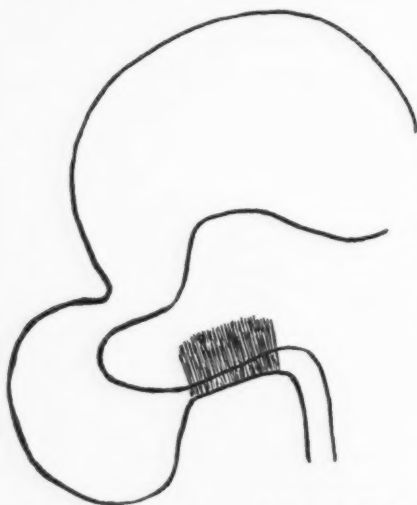


Fig. 4.—Drawing with stomach elevated, showing broad band about fourth portion of duodenum, causing duodenal stasis with dilatation proximal to the band.

In one case, in an adult male, coming under my observation, the patient had been incapacitated for five years, the major portion of three years having been spent in various hospitals where he was treated for "duodenal ulcer" "neurasthenia," etc.

Many find that rest in the dorsal position, after meals, gives relief. Others find that assuming some special position after meals enables them to go along in comparative comfort. The young man, mentioned above, had found that lying in the right Sims's position, with his head lower than the hips, gave complete freedom from symptoms. The mechanics of this were solved by fluoroscopic examination, in both the upright and right Sims's-Trendelenburg position.

In many cases the symptoms appear after prolonged periods of overwork. In young women they may be associated with the menstrual period.

The distress caused by duodenal stasis naturally reaches its worst after the intake of food but is not a "hunger pain," such as one finds in ulcer of the duodenum. Neither

is this distress relieved by food or alkalis. On the other hand, most relief is obtained by assuming the recumbent dorsal or some special position after meals. Other patients find relief by wearing an abdominal supporter.

PHYSICAL FINDINGS

The presence of the enteroptotic habitus and the history of indefinite epigastric distress should always make one think that duodenal stasis should be ruled out. There is frequently a point of tenderness in the epigastrium near the navel. The acid index is frequently low, but the test meal usually discloses hypersecretion. A. L. Holland⁶ says: "The physical examination, beyond evidence of deficient abdominal tonus and occasionally a tender point at about the level of the umbilicus, is not helpful; we must rely on the x-rays for positive information." In fact, the x-ray findings are pathognomonic.

The x-ray findings are chiefly derived from the fluoroscopic examination, with films to confirm what is seen on the screen. Normally the opaque food passes rapidly through the duodenum in a straightforward manner. In patients suffering from duodenal stasis, one can see the entire duodenum fill with the opaque mixture, which moves forward to the ligament of Treitz or to the point of kinking by adhesions or extra-duodenal pressure, then antiperistalsis takes place and the food moves backward. Peristalsis and anti-peristalsis alternate. In some cases the food regurgitates into the stomach.

While this process continues, food keeps coming down from the stomach into the duodenum until the entire duodenum becomes dilated. Then, either by increased effort or by the patient shifting position, the food passes by the point of obstruction. By examining the enteroptotic patient, lying prone, one can immediately see that normal physiology is restored, while when upright the stasis is easily demonstrated. The fact that we are dealing with a mechanical interference with normal physiologic function in the upright individual, which disappears when the patient is horizontal, accounts, in my opinion, for the inability of the surgeon to demonstrate the condition in the enteroptotic patient at laparotomy. On the other hand, the types due to adhesive bands or pressure from the superior mesenteric root, can easily be demonstrated at the operating table.

SYMPTOMS AND PHYSICAL FINDINGS	Duodenal Stasis	Duodenal Ulcer	Gallbladder Disease
Age.....	20-60	20-30	40-50
Sex.....	Female	Male	Female
Type.....	Enteroptotic	Robust	Stout
Seasonal.....	O	+	O
Pain.....	Distress	+	+
Local.....	O	+	+
Referred.....	O	O	+
Relation to food intake.....	Soon after	3-4 hrs after	O
Relation to kind of food.....	O	O	Fats
Vomitus.....	+	Only in stenosis	+
Food Relief.....	O	+	O
Postural Relief.....	+	O	O
Jaundice.....	O	O	+
Tenderness.....	O	+	+
Acid Index.....	O	Increased	Reduced
Stool.....	O	Blood	Bile reduced or absent
X-rays.....	+	+	+
Dilated Duodenum.....	+	O	O
Antiperistalsis.....	+	O	O
Invagination defect.....	O	+	O
Postural effect.....	Increased when upright	O	O
Graham-Cole Test.....	O	O	+

DIFFERENTIAL DIAGNOSIS

Duodenal stasis must be distinguished from ulcer of the duodenum and gall-bladder disease. Above is a table of the differential points, arranged in parallel columns.

TREATMENT

The type of duodenal stasis found in the enteroptotic can be relieved by nonsurgical means. If the patient is so situated that thirty minutes rest, preferably in the prone position, can be had after each meal, relief

will usually follow. If the weight can be increased, so that the greater intra-abdominal pressure will raise the stomach, relief will follow. In others, a properly fitted abdominal support will be sufficient.

Those cases due to bands of adhesions attached to the duodenum, producing kinks, or in patients who have had a previous laparotomy, followed by adhesions to some part distant from the duodenum and causing pressure of the root of the mesentery on the duodenum, are best treated by surgery. Congenital anomalies and hernias into the duodeno-jejunal fossa are, of course, purely surgical conditions.

CASE REPORTS

Case 1.—The patient was a white nurse of an enteroptotic type, very ambitious and constantly overtaxing her strength. For the past several years she has had periods of epigastric distress, which seemed to come on when she was overtired, usually culminating in nausea and vomiting. Rest in bed for a few days generally gave relief. Recently an attack of this character recurred and the ordinary rest in bed did not give complete relief.

Physical examination was negative, except for slight tenderness in the epigastrium. All laboratory tests were negative. X-ray examination showed the stomach normal in shape and size; greater curvature well below the navel when standing. The first portion of the duodenum was markedly dilated and there seemed to be interference with the forward movement of the contents at the junction of the first and second portions. At the six-hour observation the stomach was empty, but the first portion of the duodenum was filled and dilated. Re-examination showed that, when the patient lies on her back, the contents of the first portion of the duodenum go through the point of interference. By elevating the first portion with the hand, when she is standing, it also empties.

Diagnosis: Taking all of the evidence into consideration, our conclusions were that she was suffering from duodenal stasis with dilatation, probably due to her enteroptotic condition.

She was put to bed, with the foot elevated, and her symptoms immediately disappeared and she began to gain weight. Since then she has been able to be active in her profession.

Case 2.—This white, male patient, 41 years of age, has had recurrent attacks of pain in the epigastrium, accompanied by nausea and vomiting. He had ulcer diet for several weeks, on several different occasions, without any apparent relief. The patient himself says that he feels as if the food cannot get through a certain place in the upper part of the abdomen. He had an appendectomy five years ago, without any relief.

Physical examination was negative, except for slight tenderness in the epigastrium. Gastric analysis showed hyperacidity; otherwise the laboratory tests were negative. The x-ray examination showed the stomach of normal shape, size and position. The first portion of the duodenum was smooth, both on the fluoroscopic examination and on the films. About the middle of

the first portion of the duodenum was a definite kink, which produced duodenal dilatation proximal to this point and duodenal anti-peristalsis when the patient was upright. When this kink in the duodenum was straightened out by pressure of the hand, the meal passed normally through into the jejunum.

Diagnosis: Taking all of the evidence into consideration, our conclusions were that this patient was suffering from a band causing a kink in the duodenum.

CONCLUSIONS

From the above discussion I believe we are justified in dividing duodenal stasis into four types:

- 1.—Reflex, from pathologic changes elsewhere in the abdomen.
- 2.—Partial obstruction in the enteroptotic individual—a penalty for walking upright.
- 3.—Partial obstruction, due to pressure of the superior mesenteric vessels on the duodenum.
- 4.—Obstruction due to definite bands, congenital or acquired.

The treatment of the first type must be directed to the causative condition; the second type is treated medically; the third and fourth types are best treated surgically.

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Accessible Cancer

Early Treatment with Endothermy

By F. W. SCHROEDER, M.D., *Strasburg, Illinois*

WHILE the physicians of the United States are pursuing their various duties and specialties, cancer is annually stealing 100,000 victims away from under their noses. How many cases of cancer are cured every year is a bit problematical, but fragmentary statistics allow the deduction of 11,000 to be made. However, when we consider that, of the 100,000 who die annually, a very generous number could be saved, it appears that we, as physicians, are not doing our best.

Cancer of the viscera must be diagnosed early, very early, to be amenable to curative treatment. Every physician should be conversant with the early symptoms, particularly of gastric, intestinal and pelvic cancer, so that existing cancer will be demonstrated early and proper treatment instituted when the maximum result can be anticipated. It is inexcusable to treat, for a whole year, "indigestion" or a bleeding uterus, without having established, beyond a doubt, that carcinoma is non-existent.

Unfortunately, many of these cancer patients do not consult a physician until too late, hence the death rate of internal cancer will always be high until a specific for cancer is found. However, the fact I want to bring to the attention of the profession is the unnecessary sacrifice of human life, due to accessible cancer.

How many of these 100,000 deaths annually are due to cancer of the skin and accessible cavities is difficult to say, but I will venture the opinion that, according to the statistics available, 20,000 is a conservative number. Assuming this figure to be approximately correct, 20,000 patients die needlessly every twelve months.

CONVINCING THE PATIENT

Nearly every one of these patients goes to some physician reasonably early, in order to find out what the tumor or the ulcer amounts to. At exactly this time 20,000 patients are lost because the doctor does not use sledgehammer force in impressing the patient with the necessity for immediate action. If one does not, then and there, arrange definitely for the immediate

and proper treatment of the malignant condition the patient will waste months with quacks, salves and other useless methods, only to come back when he is beyond help. Only a few days ago I had to amputate a breast which could have been saved and the prognosis materially improved had the patient followed her physician's advice six months earlier. Persuading the patient to submit to proper treatment is the most difficult part in the treatment of cancer.

In trying to convince a patient, there are two things that make the deepest impression. The first is the certainty of a horrible death. This is an argument with a punch. Use it first and to the limit. Regardless of your vocabulary, you cannot fully describe the horrors of a cancer death.

The second argument is a leaf out of the book of the quack. One must promise something as definite as is consistent with the truth. No ethical physician will promise a patient an out and out cure. It cannot be done with a clear conscience. On the other hand, do not kill his hope, but estimate the chances of his recovery at fifty, sixty, seventy-five or ninety percent, as the case may be, and tell him that he has to take the chances as they are offered. Explain to him fully the advances made in the treatment of cancer and, above all, the tremendous advantage of early treatment, by such means as have proven their worth.

Due to the nature of cancer and the necessity for special knowledge and equipment for the treatment of these malignant conditions, most physicians refer these patients to someone else. It should, however, be of interest to all physicians to know how these patients are being treated and what results are being achieved.

SURGICAL DIATHERMY

While it is only by drawing on all known methods of treatment that the greatest success comes to any of us, I have come to regard surgical diathermy, usually combined with x-rays, as the treatment of choice in malignant lesions of the skin and accessible cavities.

The principles involved in its use in cancer are more easily understood than are those of x-rays or of radium. The effects of its application are instant and can be followed by the eye, while the treatment is going on. The operation one intends to do can be executed with a certainty and efficiency which puts it in a class of its own.

Surgical diathermy, which is more and more frequently called *endothermy*, employs one of three different types of current:

- 1.—D'Arsonval, for electro-coagulation (bi-polar).
- 2.—Oudin current, for desiccation (mono-polar).
- 3.—The undamped, high-frequency current (bi-polar cutting current).

All of these currents are used in endothermy, according to which is best suited to the purpose.

In developing a high degree of enthusiasm for endothermy, one must maintain sound reasoning and a respect for other measures which have proven their worth. But, on the other hand, the surgeon, with the x-ray and radium enthusiast, might well pause and openmindedly give diathermy some serious study.

Endothermic methods require surgical training and experience. *Endothermy is surgery*, with the addition that the operator must know something definite about the effect of high-frequency currents on living tissue. If one has not a wide experience with endothermy, one should not attack a cancer with it, for this means walking into the wide-open arms of trouble.

Many of the diathermy machines in the hands of physicians are of a construction which precludes satisfactory endothermy. To produce good work, a very accurate balance must be maintained between amperage and voltage and other factors involved.

Assuming that one has the necessary surgical skill, the proper understanding of the different types of cancer, the knowledge and aptitude to apply endothermy intelligently and a machine which delivers the proper current, what can we hope to accomplish with endothermy in accessible neoplasms? This can best be answered by showing what has been done and, for that purpose, I will review a few cases of different conditions, in various locations.

CASE REPORTS

Case 1: This was a cancer of the clitoris

and upper part of the labia minora, in a virgin of thirty-seven years.

Under local anesthesia, a line of coagulation was run around the tumor, to prevent, as much as possible, all metastasis. Since the urethra was still intact, great care was exercised in its preservation. A sewing needle, in a suitable holder, was used for this part of the work, and a heavier, aluminum needle for coagulating the tumor proper.

When this patient had rested a short time, following the operation, she returned to her home, sixty miles distant, and a month later her family physician wrote that healing was complete. Shortly after this she was married and, in the course of time, gave birth to a little girl. Her physician stated that the cicatrix gave no particular trouble.

Case 2: This patient was referred to me by a physician in the southern part of the state with a note stating, "See what you can do for him. To me he looks hopeless."

The patient presented a large, ulcerated malignant neoplasm over the trapezius muscle and about two inches above its insertion to the spine of the scapula.

Since this patient insisted on returning home the same day, hospitalization was out of the question. All he asked was that I give him warning a few minutes before starting the operation. Before I had placed all the local anesthetic, the patient was sound asleep and never awoke once during the operation.

Placing the line of coagulation around this ulceration required fifty-seven insertions of the needle. When the coagulation of the entire area was complete and the detritus removed, the remaining cavity measured four by four and one-half inches. Several attacks were necessary before all cancerous tissue was destroyed. Proper dressings were then applied and the patient permitted to continue his sleep. Towards evening he awoke, asked for water, and left for his home, a hundred and twenty miles distant. While this should hardly have been permitted, it shows the almost total absence of shock. In thirty months no recurrence had taken place.

Case 3: This man, a skillful organist, presented a sarcoma of a finger. The same day his physician made the diagnosis, the patient followed the advice given him and drove his car one hundred and thirty miles to have the tumor properly treated. Early diagnosis and immediate action probably saved this man an indescribable future.

When coagulating a growth on a finger, remember to guard against destruction of too much of the circulation. It is easily done.

In this instance it was necessary to set the machine to deliver a judicious amount of current. After a line of coagulation was placed around the sarcoma, the growth itself was destroyed. No attempt was made to remove the products of coagulation. The wound was properly dressed and the patient returned to his family physician.

No recurrence has taken place in two years and four months.

Compare the happy results in this case with the pitiful condition of a young man who came to me after having twice sub-

mitted to surgery upon a sarcoma on the anterior aspect of his thigh. When he presented himself the case was hopeless. A few months later his beautiful and accomplished wife was a widow and his six-months-old baby an orphan. The first surgeon to operate on him was the merest of tyros. At that time a wide excision with the endotherm, followed by x-rays, would probably have determined a different future for this man and his little family.

Case 4: This was a woman with a "sore spot" in the vagina. Examination disclosed a malignant ulcer on floor of the vagina, one and one-half inches from the cervix and the size of a quarter-dollar.

Coagulation was followed by complete healing in five weeks. Ultraviolet irradiation was employed, to expedite healing.

This patient of forty-eight years was a semi-chronic invalid, due to the irritation of this malignant condition. She rapidly gained flesh after the operation and, in six months, was again vigorous and apparently in perfect health. Three years have elapsed without a recurrence.

Many more interesting cases could be mentioned, such as cancer of the cervix, cheek, nose, tongue, ear, eyelid, breast, penis, etc., but to discuss them would practically be repetition. They differ mostly by location.

I urge great caution in treating cancer of the breast. If one is positive that one can destroy all the malignant tissue, coagulation is ideal; but I believe that cancer, on the surface of the breast, is a more treacherous agent of death than most of us realize, because it is treated too lightly. Metastasis into the glandular part of the breast is often established while the patient

is losing time "thinking it over." Usually amputation is the best advice, and then the endotherm is the instrument of choice.

Likewise, if cancer of the cervix can be totally destroyed by coagulation, it is decidedly the operation to be preferred. If one is in doubt, open the abdomen and make sure of removing all of the cancer by means of the endotherm "knife." While this is not, in reality, a knife, I will call it such, in the absence of a more suitable term.

Do not "try" a certain treatment: Be *absolutely positive* that you are offering the patient the best that is known and then go ahead and make a good job of it. If you succeed, you have something to build on for the future and the patient has something for which to be grateful. If you fail, you do so with the knowledge that you have exhausted human ingenuity and skill in your effort.

Let us reduce the mortality of 100,000 annually, by exercising great care in diagnosis and by convincing our patients, with vigor if necessary, that only by prompt and intelligent treatment they can escape a death from cancer so horrible that, in comparison, a hangman's noose would be merciful.

As regards treatment, I will venture the opinion that endothermy will eventually supersede the scalpel in all types of cancer, especially when the decided advantages of endothermy are generally recognized and those who are prejudiced against everything they do not understand have become a negligible minority.

CLINICAL MISCELLANY

Remedying Postural Defects in Children

In poor posture the child is ill all over; it is essential for the remedial helper never to concentrate on one fault or one portion of the child's body at the expense of any other and, therefore, the utmost care should be expended on the commencing position of movements. In correcting the chin, remember the braced knee, for we have realized the interdependence (especially in a growing child) of all muscle groups and the mechanical limb lines of the whole

body. This needs emphasis, if the medical man is not himself casting a practiced eye over the remedial work, for many inexperienced gymnasts tend to allow the child's body to stay in one point while they endeavor to correct the other.—DR. ANNA B. BROMAN, in *Brit. J. Actinother. & Physiother.*, Sept., 1930.

Radium Therapy of Intraoral Cancer

Of 473 unselected but fully verified cases of carcinoma of the tongue, observed from 1917 to 1928 and treated by radium, 105

are clinically free from the disease, and of these 23 are free for periods of from 5 to 10 years. In association with radium, operative surgery is frequently necessary in the mouth, for excess drainage and for dealing with disease in bone.—DR. D. QUICK, of New York, in *New York St. J. Med.*, Sept. 15, 1930.

Therapeutic Lamps

Not every lamp offered for sale emits radiant energy equivalent to sunshine, even though it be called a "sunlamp" by its maker. The chemical-ray lamps are commonly called ultraviolet lamps, while the thermal-ray lamps are called radiant heat lamps. *Neither of these special therapeutic lamps should be used except under the prescription and direction of a physician.*—DR. FRANK T. WOODBURY, of New York, in *M. J. & Record*, Sept. 17, 1930.

Intravenous Urography With Uroselectan

Judging from the experience of those who have employed uroselectan intravenously, its greatest value probably will be in determining the condition of the kidneys in cases in which ureteral catheterization is difficult or impossible. Although, in some cases, its use may render cystoscopic examination unnecessary, yet the interpretation of the urogram will often have to be accompanied by cystoscopic data in order to complete the diagnosis.—DR. W. F. BRAASCH, in *Surg. Gynec. & Obstet.*, Sept., 1930.

Ultraviolet Rays in Treatment of Leprosy

Drs. Dhur-roy and A. Rakshit, in *Indian Med. Gaz.*, April, 1930, say that ultraviolet ray treatment of the dermal lesions of leprosy is followed by their gradual disappearance.

The following course of treatment is given daily, as a preliminary to the ultraviolet ray exposure: The patient is first given a water enema; he is then given a general massage of the whole body and a steam bath, which is followed by radiant heat from a solux lamp, until he feels warm, when 2 or 3 minutes exposure to the rays from a quartz-mercury lamp, at a distance of 30 inches, is given. This routine is followed for about 35 days with passive movement and massage of the affected limb.

Pruritis Ani and Pruritus Vulvae

In treating pruritus ani or pruritus vulvae by ultraviolet rays, the most convenient method is by means of the Kromayer water-cooled lamp. The lamp may be used at a distance of 2 or 3 inches, with a 4-minute exposure, or it may be placed in contact with the skin, the duration of exposure varying inversely as the square of the distance. After a period of from 4 to 6 hours, an erythema should appear. The second application should be given as soon as the erythema has subsided. Six to twelve treatments are usually required. Lotions may be applied to allay the irritation incident to the treatments.—DRS. L. F. R. KNUTSEN and F. H. HUMPHRIS, in *Lancet*, Sept. 13, 1930.

RECENT ABSTRACTS

Lead Ampules for Radon

After rather extensive experiments with various substances as shells for containing radon, to be implanted in malignant tumors, Drs. F. E. Simpson and J. S. Thomson report, in *Bul. Simpson Radium Clinic*, for Nov., 1930, that capillary tubes of lead, having an internal diameter of 0.15 mm. and a wall thickness of 0.3 mm., have proved most satisfactory. When filled with radon and ready for use, the ampules have an outside diameter of about 0.75 mm. and are 2 to 3 mm. long, containing about 1 millicurie of the radioactive gas.

The lead screens out all of the alpha and

90 percent of the beta rays, so that only the non-irritating gamma rays enter the tissues. As the radioactivity of the radon is exhausted after a few days, the lead ampules remain in place, as harmless foreign bodies.

The ampules are placed in the tumor through specially devised needles.

Treatment of Prostatitis

Dealing with the management of acute and chronic prostatitis, Dr. C. K. Smith, of Kansas City, remarks in *Med. Herald. Phys. Therap. & Endocrine Survey*, July, 1930, that digital mas-

sage of the prostate through the rectum has been the standardized mainstay in the treatment of chronic prostatitis. It should not, however, be employed during the acute stage.

Various other methods of treatment have been advocated, including the application of heat in various ways, intravenous medication and gland injections made by needle puncture. Massage has often been excluded.

While these various forms of treatment are undoubtedly helpful adjuncts, physicians who have had wide experience in this type of disease are unanimously of the conviction that massage is indispensable. It accomplishes two definite things: It empties the gland of pus and infectious material, and it induces local stimulation, by increasing the blood supply to all parts of the prostate. If properly given, there follows a feeling of relief from the pent-up sense of fullness.

Skillful massage of the prostate is not a "gift of the gods"; it is acquired only by painstaking experience. We are dealing with a delicate and sensitive glandular structure, and careless, rough tactics are often harmful rather than helpful.

Radium Versus Surgery in Uterine Cervical Cancer

Citing the opinions of a number of leading surgeons and others in support, Dr. H. Swanberg, of Quincy, Ill., concludes that the surgical treatment of uterine cervical cancer should be virtually abandoned, since better results are secured by proper radiation treatment, especially by the technic of Regaud, of Paris.

The cardinal principles of the Regaud technic are:

- 1.—Proper preliminary treatment.
- 2.—Rigorous asepsis.
- 3.—Use of comparatively small amounts of radium over a long period of time, applying the greatest possible dosage without injury to surrounding normal tissues.
- 4.—Employment of a number of radio-active centers, distributed throughout the entire uterine canal and in the vagina.
- 5.—Use of heavy filtration (by dense metals such as gold or platinum), which permits only the deep-penetrating gamma rays of radium to be emitted, thereby avoiding necrosis of the tissues.
- 6.—Use of external radiation, in addition to the intra-utero-vaginal radium therapy, when the growth has extended beyond the uterus.

The main percentage of clinical (provisional) cures obtained in the Regaud Clinic following his method was 30 percent. The total 5-year cures in a series of 610 patients increased from 8 percent, in 1919, to 32 percent, in 1923. Ninety (90) percent of these patients were doubtfully operable or inoperable when the treatment was begun.

Light and Heat Baths

As stated by Dr. Leonard Hill, in *Practitioner*, Lond., July, 1930, experiments carried out by him showed that a light bath increases the resistance of rabbits to the intravenous injection of an otherwise lethal dose of staphylococcus and that, not only the ultraviolet rays, but

the shortest wave lengths of the infrared have this power. The latter, together with red rays, have the greatest power of penetration, reaching the blood vessels in the skin, the red rays even passing through the blood. Long infrared rays have almost no power of penetration and produce an uncomfortable, dry heat of the surface, while the short infrared rays, by their penetration, provoke transpiration and sweating and are far more comfortable.

In the consideration of the beneficial effects of heliotherapy, attention has been turned too much to the influence of light. Other factors of great importance must be taken into account; namely, the effect of the cooling power of the open air on the exposed skin in stimulating muscle, nervous tone and body metabolism; and the effect of breathing cool air with low vapor tension on promoting evaporation from the respiratory membrane and so enhancing the outflow of secretion from and the flow of lymph and arterial blood through it.

A child leading an open-air life, sleeping out of doors, playing games and thereby greatly increasing the ventilation of the lungs, may evaporate from the respiratory membranes some five times as much water as a child kept indoors and sedentary; and this means a corresponding increase of blood and lymph flow in the membrane and better maintenance of defense against infection.

But it is just as unwise to under-clothe and expose children to open air all the time as it is to coddle them indoors all the time, for fear they will catch cold. An adequate measure of invigorating exposure and open air games in all weathers is required, with plenty of warmth at other times, indoor conditions being made good by ample ventilation with clean air.

Roentgen Treatment of Arthritis

In *Brit. J. Actinother and Physiother.*, Aug., 1930, Dr. G. Kahlmeter, of Stockholm, writes on his experience in the roentgen irradiation treatment of 155 cases of arthritis, the majority of which were of the infectious or rheumatoid arthritis groups.

The technic employed in all cases was two or three series of treatments, at one or two months' interval, each series consisting of a couple of deep roentgen doses of medium strength, applied from different aspects over the joint, with one or a few days intervening between the applications.

The results showed 87 percent improvements. The polyarthritis endocrine group showed an improvement of 82 percent and the "malum coxae senile" group only 40 percent improvement.

Coccygodynia and Its Treatment

In most textbooks, coccygodynia is considered to be a condition special to the female sex. In *Med. Herald, Phys. Therap. & Endocrine Survey*, Aug., 1930, Dr. S. G. Burnett, of Kansas City, Mo., controverts this view and considers the condition as real and occurring in both sexes, not being always due to direct injury of the coccyx.

Many cases of coccygodynia have been suc-

cessfully treated by the author by graduated rest, forced feeding and the use of the Leydized Morton wave current. The author's special zinc coccygeal electrode is used. The convex surface fits into the intragluteal bifurcation and the tip end is kept free from the rectum, to avoid discomfort. The posterior surface is concave to hold a roller bandage as thick as the finger and about 4 inches long. It can be made wide enough to cover the sacrum and part or all of the lumbar vertebrae. The spark must be applied gently, and gradually increased to tolerance. Treatments are given, at first, twice daily; then once daily; then three times a week for a period of three months.

as a much condensed, consecutively arranged and carefully edited work, or that it will be expanded to three times its size, so that every subject may be treated with meticulous attention to completeness, adequateness and accuracy of detail and method

F. T. W.

NEWS NOTES



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Dr. Schmitz Receives Medal

At the annual meeting of the Radiological Society of North America, at Los Angeles, Calif., in December, 1930, a gold medal was conferred by the Society upon Dr. Henry Schmitz, associate editor of *CLINICAL MEDICINE AND SURGERY*, "for research and outstanding accomplishment in the field of radiation therapy." A similar medal was conferred upon Prof. Robert A. Millikan at the same time. Only about twenty of these medals have been given during the history of the Society. The picture shows Dr. Robert May, the president (left), making the presentation to Prof. Millikan and Dr. Schmitz.

Information on Radium

The March, 1931, issue of *The Radiological Review* (63 E. Lake St., Chicago) will be the fourth annual radium number and will present the status of radium therapy, as practiced in the United States today, as evaluated by many of the leading radium therapists in this country.

This number of our esteemed contemporary should be of interest to all readers of this Department.

BOOKS

Grover: High-Frequency Practice

HIGH FREQUENCY PRACTICE. With Appendix. For Practitioner and Students. By Burton Baker Grover, M.D., Author of *Handbook of Electrotherapy* and *Epitome on Blood Pressure*; President of the Western School of Physical Therapy; President of Western Physical Therapy Association 1919-1920; President of American Physical Therapy Assn., 1929, etc. Illustrated with Engravings. Thoroughly Revised and Rewritten. Sixth Edition. Kansas City, Mo.: The Electron Press. 1931. Price \$7.50.

The fifth edition of Grover's "High-Frequency Practice" perpetuates the characteristics of former editions. Obsolete material is retained and the vast field of progress has been but indifferently gleaned. There is a chapter on Diathermy in Gynecological Conditions by Dr. A. David Wilmoth.

Grover speaks from an active clinical experience of many years, and his style is the colloquial style of the teacher which, while natural and flowing, lacks much in continuity of thought, in exactness of statement, and in completeness of information. The work contains many gems of value, but they are marred by a very indifferent setting of loose phraseology, obscure sentences, attempts at explanation in popular or vivid language of scientific facts which are much better expressed in the language of science.

The present volume offers too much and gives too little: Too much, because, like an airplane view, a vast terrain of great interest is displayed to our expectant vision; too little, because the author moves with such rapidity over this area that individual features are, perforce, inadequately treated.

Those who know the author are aware that he is a man to whom they can entrust themselves for practical assistance in physical therapeutic practice, but he has not done either himself or his subject adequate justice in this book. We hope that the next edition will appear, either

THE SEMINAR

CONDUCTED BY

MAX THOREK, M.D. (Surgery)

GEORGE B. LAKE, M.D. (Medicine, Ethics and Economics)

[NOTE: Our readers are cordially invited to submit fully worked up problems to the *Seminar* and to take part in the discussion of any or all problems submitted.

Discussions should reach this office not later than the 1st of the month following the appearance of the problem.

Address all communications intended for this department to *The Seminar*, care CLINICAL MEDICINE AND SURGERY, North Chicago, Ill.]

PROBLEM NO. 2 (SURGICAL)

Submitted by Dr. Max Thorek, Chicago
(See CLINICAL MEDICINE AND SURGERY,
Feb., 1931, p. 130.)

Recapitulation: A girl of 11 years was admitted to the hospital with a diagnosis of acute, gangrenous appendicitis, based on the classical list of symptoms. This diagnosis was amply verified at the operation which was done.

All went well until three weeks after the operation when the patient gave evidences of definite illness and had a leukocyte count of 20,000 with rales and dullness, progressing to flatness, on percussion over the lower right chest. A roentgenogram made at this time is shown in Fig. 1.

Requirement: Suggest probable diagnosis and recommend treatment.

DISCUSSION BY

DR. B. B. PARKER, ALLERTON, IA.

My idea of the diagnosis and treatment in Problem 2 is as follows:

1.—Some information as to temperature, respiration, sputum, cough and pain is withheld or omitted, and these would aid in our diagnosis.

2.—The roentgenologist's opinion is not necessarily final. I think he should have

included *subphrenic abscess*. As a sequel to perforation of the appendix or other abdominal viscera, this is not at all infrequent.

3.—Lobar pneumonia, while possible, is probably not present, for "The patient

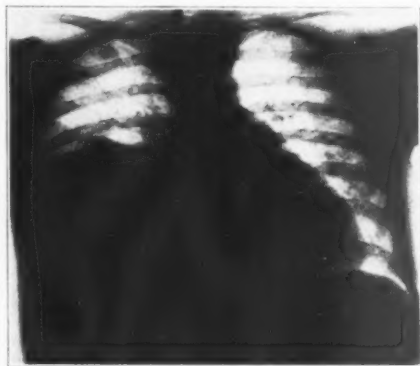


Fig. 1.—Roentgenogram taken before second operation.

gradually became ill and the dullness and flatness gradually extended."

4.—Empyema may be present, independently or combined with subphrenic abscess.

5.—The roentgenogram appears to me to show a very large area of liver shadow. There is density far above and below the normal, probably meaning displacement downward of the liver and some dense accumulation bulging upward and displacing the lung and heart, for the heart shadow appears large also, meaning displacement to the left.

My tentative diagnosis would be: *pus accumulation in the region of the right base*, and exploration with a needle and trocar should be immediately performed.

If pus is found, the following points will aid in determining its location:

1.—If in the pleural sac, the pus will be expelled through the cannula with some force on *exhalation*, as the diaphragm ascends.

2.—If beneath diaphragm the pus will be expelled more forcibly on *inhalation*, when the diaphragm descends; also the pus probably will be bile-tinged.

3.—Lung abscess should show pus in the sputum and a more circumscribed x-ray shadow, with gradual shading into the surrounding lung tissue.

Treatment: Surgical drainage, transpleural or through an anterior abdominal incision, if the surgeon is satisfied that the abscess is beneath the diaphragm.

DISCUSSION BY

DR. I. E. CRACK, HAMILTON, ONT., CAN.

As the condition followed a gangrenous, retrocecal appendix, I would look upon it as a subdiaphragmatic abscess.

Treatment would be exploratory puncture, and if pus were present, surgical drainage.

The character of the temperature would throw some light on the exclusion of a possible pneumonia.

DISCUSSION BY

DR. J. R. STURRE, MINNEAPOLIS, MINN.

In studying this problem, one is confronted with a differential diagnosis between the following conditions:

1.—*Pleural effusion, serous or purulent.* (Study the temperature record and pulse rate. A fluoroscopic examination, to see if the fluid shifts on different levels, would help. Thoracentesis will give the most definite and conclusive information and is easy to do.)

2.—*Abscess of the lung.* (The temperature and pulse rate are ordinarily high. The patient should be toxic and have sweats. Further observation and x-ray study will determine.)

3.—*Sub-diaphragmatic abscess.* (Temperature and pulse rate are high; the patient is septic and should show abdominal symptoms, such as upper-abdominal tenderness and rigidity.)

4.—*Lobar pneumonia.* (The progress over a few days—temperature and pulse, lung symptoms, etc.—should be easy to recognize, especially after repeated examinations. Bronchial and tubular breathing will be present, especially in a consolidation.)

5.—*Massive collapse of the lung.*

(This can occur in just one lobe, but the heart should shift to the affected side.)

If this were my patient, I should thoroughly auscultate the chest for signs of lobar pneumonia, bearing in mind that *true* lobar pneumonia is rather rare. The x-rays will help, but the roentgenogram in this case does not appear to me to be characteristic of lobar pneumonia. Also she "gradually began to appear ill again," and lobar pneumonia usually begins quite abruptly, with all the signs of a severe, acute illness. The leukocyte count would fit lobar pneumonia, as well as almost all of the other conditions to be considered.

If a decision is reached against lobar pneumonia, I should use the fluoroscope to examine her for shifting of the fluid level, and whether or not it shifted I should pass a needle into her pleural cavity. If this



Fig. 2.—Showing location of drainage incision.

proves clean, the needle can be pushed on into the lung, to explore for lung abscess. I should not do this early, in this case, because, if it is a lung abscess, there is plenty of time for interference and most of them rupture into a bronchus.

If a decision is made that it is a lung abscess, daily position in bed, with the head low, and coughing will facilitate rupture and later drainage.

The x-ray appearance is decidedly against massive collapse of the lung or, in this case, of one lobe. This condition would need no treatment.

Personally, from the history of occurrence gradually, with loss of appetite and strength; the presence of dullness over the chest with a few rales; the dullness gradually extending upward, I should strongly suspect pleural effusion. The leukocytosis would indicate that it is purulent. The x-ray picture appears as it would if the effusion were encapsulated.

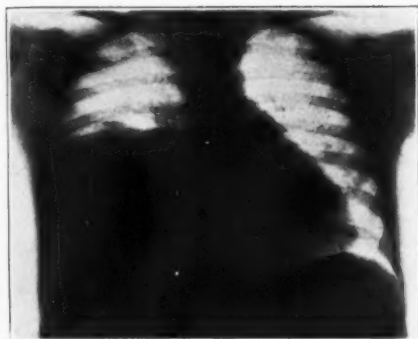


Fig. 3.—Roentgenogram taken three days after operation.

My treatment would be paracentesis, to be sure of an effusion, and drainage, either closed or by thoracotomy, if it is purulent. Thyroid, in small doses, will probably help her to recover a little more rapidly.

This does not appear to be a sub-diaphragmatic abscess, due to the fact that the diaphragm is not found domed or elevated and no abdominal signs are present. If it were, surgery would be necessary.

SOLUTION BY

DR. MAX THOREK, CHICAGO

The problem presented in the February issue of *CLINICAL MEDICINE AND SURGERY* is extremely important. I am pleased to note that a thorough discussion of its various aspects has been entered into.

It would be well to recall the history of the case and study the reproductions of the x-ray pictures.

Confronted with the problem and the x-ray report, speaking for a possible lobar pneumonia, encapsulated empyema or lung abscess, we were in a dilemma. Nothing was said in the report about the possibility of a subphrenic abscess, but the roentgenologist should not be censured, for he was not apprized of the history, which is often the all-important factor in arriving at a definite diagnosis.

The case was carefully studied. The symptoms increased in severity. I decided that we were dealing with a subphrenic abscess. As soon as the diagnosis seemed certain, the child was promptly operated upon and drainage instituted through the antero-lateral aspect of the abdomen, below the last rib (Fig. 2).

Three days after the operation another x-ray picture was taken (Fig. 3). The report read as follows:

"The density in the lower right chest has receded considerably and, at the present time, there is evidence of a rather marked pleural thickening. Apparently some fluid material has been removed from the area and the density remaining at this time is confined to the borders. The heart is still displaced to the left."

From then on the progress of the patient was remarkable. The roentgenogram shown in Fig. 4, taken one week after operation, when compared with the one shown in Fig. 3, will disclose a striking difference in the appearance. The report on the Fig. 4 roentgenogram reads as follows:

"The most recent exposure of the right lower lung field and liver region presents a rather well-marked, rounded shadow which could be due to the dome of the diaphragm which is expanded by a subdiaphragmatic abscess. The lung tissues above this shadow cutline are less transparent than is normal, which undoubtedly represents some inflammatory change in the lung, but

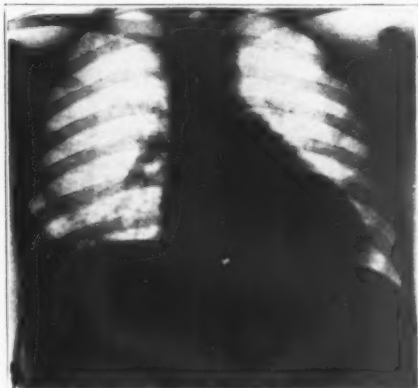


Fig. 4.—Roentgenogram taken one week after operation.

this could be an extension of the inflammatory change below the diaphragm. The outline as described is not entirely clear, but is the most suggestive of any of the films that this condition is of subdiaphragmatic origin."

You will observe that the roentgenologist now speaks of subdiaphragmatic abscess. The history was supplied him and, of course, correlating the clinical findings with the x-ray findings of the last film, the diagnosis was self-evident.

The child made an uninterrupted recovery.

There are few conditions which put the surgeon to greater test than the differential diagnosis of subphrenic abscess.

Where one finds an abscess pointing to the anterior or posterior abdominal wall, the situation is, of course, simple. The diagnosis is made at once, drainage is instituted and only the grossly ignorant will

permit himself to err in instances of such manifest diagnostic simplicity.

The story, however, is different in complicated cases. Multiple punctures may be necessary to find the seat of the purulent collection. In the early stages, it will not be found at all. If the needle has passed through the diaphragm, a peculiar sensation will be imparted to the hand of the operator. The resistance of the underlying tissues will tell the tale.

It is well to remember Fürbinger's sign, which consists of *observing the movements of the aspirating syringe*. If the needle has penetrated the diaphragm, the barrel of the syringe will move up and down with each respiration. The character of the blood drawn is also a diagnostic criterion. *If from the liver the blood is dark; if from the lung it is bright red and frothy.*

About fifty percent of the cases of subphrenic abscess are the result of appendicitis.

Based upon his great experience Korte concludes that many of the cases of subphrenic suppuration are brought about by reason of pathologic conditions in the stomach, liver, spleen, kidneys, pleura, ribs, intestines and pancreas. These are given in their order of frequency.

The main aid to diagnosis of subphrenic abscess is to bear it in mind and to *search for it*. If confronted with the problem under discussion, it is of importance to decide whether there exists, besides the subphrenic abscess, a pleural effusion or a subphrenic abscess without pleural or pulmonary involvement. Marked signs of pulmonary compression and infiltration point to empyema. In their absence, subphrenic abscess is the strongest possibility. The area of dullness in subphrenic abscess is outlined by a convex border; in empyema the line of dullness is horizontal and runs obliquely toward the spine. These findings are verified by the x-rays. A study of the shadow cast on the film, particularly as to its outline, is of the utmost importance: *upward displacement of the dome of the diaphragm is diagnostic of subphrenic abscess.*

The history of the case deserves careful scrutiny. Morbid conditions of the lungs give rise to empyema. Subphrenic abscess is caused by an infection within the abdomen. Nevertheless, it must not be forgotten that *secondary pleurisy with consolidation of the lower lobe is of very frequent occurrence in subphrenic abscess, as in the case reported.*

Pain in pleurisy is much more severe than that in subphrenic abscess. The onset, in the latter, is gradual; in the former acute. The presence of a gas level, demonstrated by the x-rays and by percussion, is of great diagnostic importance.

In the case of subphrenic abscess complicated with pleural effusions, we can elicit signs and symptoms characteristic of a subdiaphragmatic suppuration, besides the clinical manifestations of accumulations of fluid in the pleural cavity. Distressing diagnostic errors are here frequent, even in the best hands. X-ray findings may be misleading.

The possibility of subphrenic abscess on the left side must also be kept in mind. Never make the mistake of confounding the tympanitic note of the stomach with the gas note of subphrenic abscess.

While making a diagnostic puncture, it is important to observe whether the pus, if present, issues during expiration or inspiration. In cases of subphrenic abscess, inspiration will force the pus out; in pleurisy, it will issue during expiration. The presence of serous fluid alone does not exclude subphrenic abscess. Pleurisy may be a secondary manifestation, secondary to suppuration under the dome of the diaphragm.

Therapeutic errors are often committed by deciding on operation in every case where subdiaphragmatic abscess is suspected. Small accumulation under the diaphragm may become absorbed. If a definite diagnosis is made and pus is found by exploratory puncture, the surgeon should be prepared to open and drain the accumulation, like any abscess in any other part of the abdomen.

It is an error not to take the following precautions in cases where subdiaphragmatic abscesses may eventuate.

- (a) *Not to use the Fowler's position.*
- (b) *The indiscriminate use of abdominal lavage.*
- (c) *Not to drain the operative area through the flank.*

PROBLEM NO. 4 (SURGICAL)

Presented by Dr. Max Thorek, Chicago

A woman, forty-two years of age, white, married seventeen years (has three children), housewife, was admitted to the hospital with a diagnosis of tumor of the uterus (type undetermined). She has been bleeding constantly for the last six months and there is ~~dr~~ accumulation of fluid within the abdomen. Family history, irrelevant; no loss of weight; no cough; shortness of

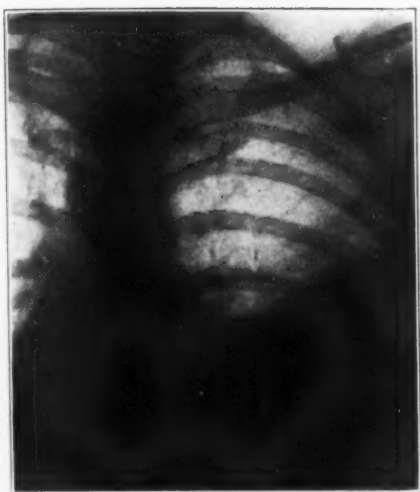


Fig. 5.—Thoracic effusion.

breath of two weeks' duration. The onset of the present illness began with slight dyspnea upon exertion, gradually followed by abdominal distension, giving rise to a sensation of fullness and pressure.

Physical examination reveals a female patient, 5 feet 6 inches in height, weighing 145 pounds, afebrile; blood pressure, 122 systolic, 88 diastolic. Fluid was discovered in the chest (see Fig. 1). The heart is displaced to the left; no murmurs; liver slightly palpable; abdomen distended; fluid present. Gynecologic examination shows the uterus enlarged; os open; bleeding; offensive discharge. Urinary findings, outside of a slight trace of albumin, essentially negative. Wassermann and Kahn tests, negative.

The blood examination shows: hemoglobin 80 percent; coagulation time, 2 minutes; erythrocytes per c.mm., 4,270,000; leukocytes per c.mm., 6,950; small lymphocytes 26, large lymphocytes 10, transitionals 1, polynuclear neutrophils 63 percent.

After a few days rest in the hospital, exploratory puncture of the chest was decided upon, and about three pints of a slightly bloody fluid evacuated, with the Potain aspirator. The examination of the fluid disclosed the following: Specific Gravity, 1.013; color, light-amber; Gram's stain, no organisms found; Wright's stain, many red blood cells, few white blood cells, mostly lymphocytes found; cells suggesting carcinoma were not found.

The x-ray report, prior to the paracentesis (Fig. 5), reads as follows:

"February 27, 1931: The shadows indicate a marked density involving the lower portion of the right thorax, which apparently is due to an accumulation of fluid which is rather well limited but apparently is encapsulated, as there is not a level fluid line in the upright position. The heart is displaced somewhat to the left, which is evidence of pressure.

In the upper left lung field there are a few shadow increases which are very suggestive of an old, healed pulmonary tuberculosis. The shadows do not have the appearance of an active condition at this time, but the same cannot be entirely ruled out by the x-rays alone."

After the paracentesis, the roentgenogram (Fig. 6) showed the following.

"The shadows of the right lower lung field reveal an absence of the density mentioned on the

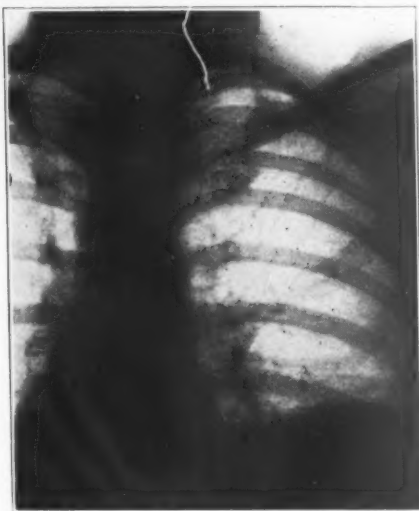


Fig. 6.—After thoracentesis.

previous report. The diaphragm dome at this time can be clearly outlined. There is still a slight amount of possible fluid in the costophrenic angle, but this shadow may be due to pleural thickening in this region. The heart shadow is apparently in the same position; that is, displaced slightly toward the left side."

On March 10, the roentgenologist reported:

"Fluid is again present in the lower right chest. Certain characteristics of the shadows at this time suggest encapsulation, as no definite fluid level can be noted, except a fluid line which runs up to the lateral wall of the chest. Considerable pleural thickening is noted. The shadows of the chest otherwise are practically the same."

Again paracentesis was done, removing about three pints of fluid, and the report of

(Continued on page 280)

THE CLINIC

INTERNAL MEDICINE

Paroxysmal Tachycardia and Related States*

By E. L. TUOHY, B.A., M.D., F.A.C.P., Duluth, Minn.

PAROXYSMAL tachycardia is discussed in practically all systems of medicine and standard textbooks. There are available in the literature, likewise, many articles written by students of electrocardiography, of cardiology in general and of general medicine. These standard articles, however, are prone to deal with the subject less as an individual entity than as an association with some pathologic condition, either anatomic or physiologic. When paroxysmal tachycardia is not approached as a part and parcel of some disease state, it is discussed rather obtrusively, with decisive statements as to the onset of the attacks or release therefrom. The inexperienced student might get the feeling that, unless the classical manifestations are present, he is dealing with a generalized neurasthenia or a cardiac neurosis, or even with an imaginary flight of ideas in an overwrought or unstable individual.

Many diseases have come to be better identified as we have come into the possession of practical therapeutic measures upon which we may rely. For example, should a patient with consistent chills and fever, occurring at regular intervals, be quite relieved therefrom with quinine, the presumption is rather difficult to avoid that malaria was probably present. By the same reasoning, when an atypical series of chills occurs, followed by fever, and likewise dis-

appearing with the same therapy, the presumption is again fair that the patient has malaria, even though laboratory proof might be neither available nor found.

Now, since we have had a good deal of experience with *quinidine* and its salts, we are likewise finding a very excellent field for it in the control of bursts of tachycardia, just as we found formerly that this drug was decisively valuable in eliminating all ordinary premature contractions or extra systoles, so commonly found in normal hearts.

I feel that few general practitioners would be unwilling to state that they have been frequently called to see "cardiac" patients who, on their arrival, presented entirely normal hearts or, at most, little more than irritability and increased rates. Too often the doctor is inclined to show his disgust for such concern over what seems to be a trifle, and treatment, if given, is offered grudgingly by the doctor, and accepted in the same mood by the patient. A closer analysis of some of these cases will bring out a situation fairly well illustrated by the following cases:

DISCUSSION OF CASES

Mrs. L. B.: Aged 23, married for seven years and the mother of three children, the youngest of which is sixteen months old, has complained of a variety of symptoms, including "fluttering," "shaking" and "stopping" of the heart—all of which arose

*From the Duluth Clinic, Duluth, Minn.

soon after her first confinement, six years previously. She stated that, in the beginning, she "often fainted two or three times each night." There were associated severe, recurring headaches, about twice each month, entirely characteristic of migraine, from which the history brought forth the usual statement that her mother had likewise been a sufferer. Rarely, indeed, did these spells occur during the daytime, but they were more prone to occur while she was having her customary "sick headache," and when awake she found that her heart beat very fast for a few moments at a time.

This patient has had a great variety of treatment and several changes of glasses without any notable improvement.

The usual examination showed little, except that she was of moderate stature, fairly well nourished, and presented no objective disease whatever. The blood count was normal; she had a negative Wassermann reaction, the urine was negative; and the blood pressures were 120/80.

All the important findings in this case could easily be acquired by any one taking an accurate history and employing the most elementary routine measures utilized in physical diagnosis. As an illustration, let it be added that the apex was well within the nipple line; that the heart tones were clear and distinct; there was normal spacing, and no extraneous sounds; there were no rales at the base of the lungs nor signs of any congestive heart failure. The ordinary routine examination, such as that outlined by insurance companies, or even less, yielded, in this case, as much as the most extreme alignment of diagnostic procedures that any laboratory disciple or intensivist could possibly conjure up!

Suffice it to say that the entire situation becomes convincing and clear when I state that, for three months, she has been without a single disturbance of the heart and without a single headache, when taking a capsule, morning and evening, each containing $\frac{3}{4}$ grain (48 mgm.) of phenobarbital and $2\frac{1}{2}$ grains (160 mgm.) of quinidine sulphate.

A lady aged 47, in the menopause, apprehensive, somewhat obese, but singularly intact, gave the following interesting story:

After eating mushrooms at her home she felt a distress, indefinitely related to her epigastrium in the substernal region, and immediately assumed that she had been

poisoned. She was taken in an ambulance to the hospital, where the general assumption seems to have been that something iniquitous had been swallowed (despite the fact that several other members of the family took the same food without either misgivings or distresses), and she was forthwith given gastric lavage and kept in the hospital for two days. The following day she was quite all right, but noticed after she got home that every day or two she would have a return of the same sort of feeling, each time accompanied with great concern. She noted that her heart beat rapidly at these times, but she had no "thud," nor did she have any feeling of a "turning over" or "flopping," at any time, nor did the spells originate or terminate abruptly. It must be admitted that all the time she carried the feeling that there had been some sort of poisoning.

A close analysis of this woman's history brought out sufficient evidence of bursts of tachycardia, presumably paroxysmal in character, to cause me to administer quinidine sulphate as a therapeutic measure. In the beginning, barbitol, 1 grain (64 mgm.), was added to 3 grains (200 mgm.) of quinidine sulphate, and the capsule given twice a day; but after a short period the sedative was entirely eliminated. So long as she kept up the quinidine she entirely controlled the situation.

The general physical examination showed nothing positive whatever, except blood pressures of about 150/90 and a few inconsequential variations in the electrocardiogram.

HYPOLYCEMIA

There is an associated group of individuals who have a condition rarely thought of and yet fairly definite and available historically, if one is "tuned in" for its interpretation. It deals with a condition difficult to prove through laboratory tests of the blood, but very easy to demonstrate therapeutically. It concerns individuals who appear to run into a state of hypoglycemia or its converse—hyperinsulinemia. Our attention was first drawn to it through the classical instance here in Minnesota, reported by Dr. H. L. Ulrich, of Minneapolis, and the clinicians at the Mayo Clinic, of hyperinsulinemia incidental to carcinomatous metastases of Langerhan's islands into the liver, with resultant glycogen imbalance.

For this discussion have I in mind rather

those instances of either poor glycogen storage function in the liver or a possible relative or emotional increase, at times, of insulin, in which the individual feels faint, distracted, unnerved, and responds immediately to the eating or drinking of something which rapidly renders glucose or its equivalent available for the blood and tissues. It is well to recall that these cases may masquerade as ulcer, since they have an uneasy feeling in the abdomen between meals and are benefited by frequent feedings.

The particular point I am coming to is that I have seen two of these patients who, in addition to this syndrome, had enough tachycardia and evidences of cardiac distress to put them into the hospital for some weeks, with unusual limitation of movement, and all-too-much concentration and attendance upon the state of their hearts. In this latter group, all these patients need is an understanding of how these symptoms arise and a careful explanation of the ease with which the condition is met and how

readily bodily balance obtains when correct measures are instituted.

An apparently normal man, 42 years old, working under unusual strain in attempting to deliver his company from the unwise clutches of a tax-gathering legislature (in other words, a lobbyist), found himself without regular sleep or meals, and probably with the injudicious use of poorly chosen stimulants. After such a period, followed by two days of considerable diarrhea, he fasted for the third day, and then finding himself very restless, took a long, brisk walk. Going to bed, he was awakened in the night with severe pounding of his heart, and the above episode of the weeks in the hospital followed. Despite his rest, such attacks continued and very much annoyed him. Learning the situation behind his spells, he has been entirely normal.

This brief clinical review should fasten firmly in our minds the truth of an old aphorism in medicine: *People do not awaken out of sleep with neurotic outbursts or phenomena.* Let us be ultra-cautious in the use of the term "imaginary."

THE SEMINAR

(Continued from page 277)

the findings, microscopically and chemically, was essentially the same as the previous one.

A guinea-pig was inoculated with the fluid from the chest. The patient remained at the hospital for two weeks, during which time her temperature was normal, her appetite was good and she was feeling generally very well, but complaining of persist-

ent bleeding, for the relief of which she came to us.

Requirements: (1) What is the cause of the uterine bleeding? (2) What is the probable diagnosis? (3) What would you do to relieve the hemorrhage? (4) If you decide to do some form of surgery, what anesthetic would you use?

PSYCHIC WEALTH

Psychic income is measured, not in terms of money nor in terms of what money will buy, but in terms of the satisfaction we get out of our lives.

The person who gets a lot of fun out of his work has a large psychic income, regardless of how much money he receives. The person who knows, deep down in his heart, that he is helping others, is rich.

—American Stories.

CLINICAL NOTES AND PRACTICAL SUGGESTIONS

Acidosis and Urine Acidity

(The Iodine Decolorization Test)

IN 1915, or thereabouts, I discovered that urine possesses the power to destroy the red tint in Lugol's solution. This can be demonstrated by making a solution of 5 Gm. of iodine scales in 100 cc. of distilled water containing 10 Gm. c.p. potassium iodide dissolved in it. Three cubic centimeters of this Lugol's solution are added to about 150 cc. of distilled water, the result being a clear liquid of a fine red-yellow color. To any convenient quantity of this reddish liquid is added a like amount of urine, and to a second sample of the same liquid an equal amount of distilled water. It will be found on shaking the mixtures that the urine destroys the reddish tint, but that the distilled water does not. Alkaline urine possesses a greater power for destruction of the red tint than does acid, but all urine decolorizes dilute Lugol's solution more or less.

I experimented with the urine of various diseases for several years, trying to find out whether acid urine of any particular disease possessed greater decolorizing power than did normal urine. My endeavors were rewarded when I was called to see a woman in diabetic coma, some hours before she died. I found that her strongly acid urine possessed extraordinary power for decolorizing iodine. Similarly, I found the urine of a patient with pernicious vomiting of pregnancy to possess increased power in the same direction.

Here, then, we have a seeming paradox, in that we find both strongly alkaline and strongly acid urine to possess greater power

in decolorizing Lugol's solution than has normal, slightly-acid urine.

My method of testing the iodine-decolorizing power of urine has been published in the *New York Medical Record* for March 8, 1919, and is as follows: Three (3) cc. of the Lugol's solution, made as above, are added to 147 cc. of distilled water in a beaker, mixed well, and set on the boiling-water bath. When a thermometer in the beaker shows a constant temperature of about 180°F., the urine to be tested is run in from a burette, a few cc. at a time, with stirring. The beaker should be large enough to hold 200 cc., when filled to capacity. It will take, in the case of normal urine, anywhere from 30 to 50 cc., maybe more, to destroy the red tint of the Lugol's solution. But, in the pernicious vomiting of pregnancy and in the acidosis with ketonuria of diabetes mellitus, less than 20 cc. may be required. In the case of the comatose woman referred to above, only 2 cc. were required.

PRACTICAL APPLICATION OF THE TEST

Not long after the Armistice was declared, an American officer returned to this country and found that his wife had become a diabetic. Her condition being somewhat alarming (nervousness, drowsiness, weakness), he consulted me with reference to her refusal to submit to blood analyses after a number of them had been made, one a day for a week. I suggested the use of my iodine test in place of the blood tests. He was skeptical, but, upon her flat refusal to tolerate further blood tests, consented to

let me try my iodine urine test. The first analysis showed about 15 cc. of urine necessary to decolorize the diluted Lugol's solution. The second showed only 10 cc. required, and I was told that the patient was becoming drowsy. I advised hospitalization, which was done. A third analysis showed only about 5 cc. of her urine necessary for decolorization. I was told that her condition was now serious and that fatal coma was feared. I heard nothing more for about a week and concluded that she was no longer living, when, to my surprise, a messenger called at my office with a specimen of her urine. This time the analysis showed 25 cc. of urine necessary to decolorize the iodine. I called up her husband and reported the result, with the suggestion that before long, if all went well, she might be able to leave the hospital. He reported pleasantly, "she got so much better that we let her leave yesterday, and today she is down town shopping." Not long after that the couple left Chicago, but I am told that in a year or two she became worse again and died in coma.

This case and several others, including those of pernicious vomiting of pregnancy, encourage me to believe that, in the iodine decolorization test, we have a measure which will cheaply and effectively enable us to "check-up" the condition of a patient with ketonuria.

Just what the urine constituent is which has the property of decolorizing dilute Lugol's solution has not been definitely ascertained by me, but the suggestion has been made by chemists that it is probably an amino-acid.

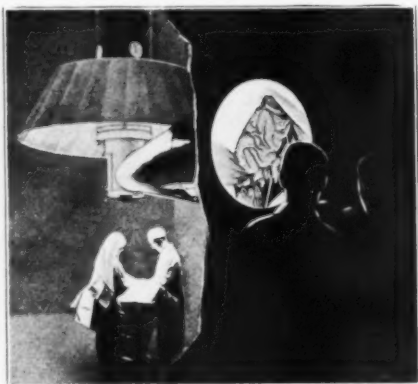
CLIFFORD MITCHELL, M.D.,
Chicago, Ill.

The Scialyscope

EVERY physician who has attended a clinic in operative surgery has frequently been disappointed by the very meager results, in the way of learning points in technic, because not more than one or two of the spectators can see the field of operation clearly enough to observe what the surgeon is actually doing. This takes no account of the very real dangers of having a number of non-aseptic persons in the operating room.

Moving pictures of surgical operations are now being taken, which remedy this difficulty to a considerable extent, but, so

far, these lack something of the "kick" which comes from being actually present in the clinic where the operation is going on. Moreover, they are "edited," so that many fine points in the technic are lost.



THE SCIALYSCOPE IN OPERATION

The panel separating the operating room from the observing room has been cut away, in order to show the complete installation.

An ideal arrangement for clinical surgical instruction should: (1) remove the observers from the operating room; (2) allow perfect freedom of movement to the surgeon and his assistants; (3) permit rigorous asepsis; and (4) give the spectators a clear and correct view of everything that is taking place. Such an ideal arrangement seems to be realized in the Scialyscope.

This apparatus consists of a large Scialytic, shadowless lighting unit, equipped with a projector which throws an image, in the natural colors and position and enlarged three times, upon a ground-glass screen set in the wall of the darkened observation room, in which any reasonable number of observers can sit at ease and watch every step of the operation as it proceeds. A microphone and amplifier can easily be installed, so that the surgeon's running comments may be audible to all of the observers.

Special arrangements have been made to filter out the heat rays from this powerful lamp; to tilt it so that operations in the Trendelenburg and other oblique positions can be made visible; and to focus the image on the screen from the observation room.

So far, only one or two of these outfits have been installed in the United States (there is one in the Hahnemann Hospital,

Philadelphia), but it would seem, if they fulfill the specifications, that when they are in general use in our teaching clinics, the problems of instruction in operative surgery will be on the way to solution.

GEORGE B. LAKE, M.D.

Chicago, Ill.

State Medicine*

Q.—What is "State medicine"?

A.—Any form of medical treatment provided, conducted, controlled, or subsidized by the state or federal government.

Q.—Is state medicine a good thing?

A.—It was state operation and state control of medicine that ruined medical practice in Germany.

Q.—Did it take long to demonstrate its "benefits"?

A.—Half a century.

Q.—Will we in the United States escape the experiment?

A.—Very likely not.

Q.—Why?

A.—Idle-brained, slogan-creating individuals are producing the mass psychology today. They say that we must give the people what they want. Consider that, and the current theatrical offerings for an answer to "what the people want."

Q.—Who are clamoring for state-controlled medicine?

A.—Our British friends designate the clamorers as loafers and wastrels. They certainly are not the dignified, self-respecting, self-sustaining citizens of our country.

Q.—But there are also a few wealthy people behind the movement!

A.—Yes, there are wealthy people who have taken up antimicrobial hobbies. Consider the antivaccinationists, antivivisectionists, the vegetarians, the Christian Scientists, and other cults.

Q.—How large is our annual sickness bill?

A.—\$2,841,000,000.

Q.—Who gets the money?

A.—Doctors' bills are less than one-fourth of the total. Hospitals, clinics, laboratories, nurses, pharmacists, cultists and patent medicine peddlers get the rest.

Q.—Who pays the annual sickness bill mentioned above—the \$2,841,000,000?

A.—One-third of it is not paid by individuals or families, but by federal, state, and local taxes, private philanthropy and

other agencies—supporting hospitals, clinics, public health work, and industries employing doctors and nurses. The remainder—\$2,000,000,000—comes out of the people's purses.

Q.—If the \$2,000,000,000 went to the doctors, how much would each get?

A.—About \$20,000.

Q.—What does the average doctor receive a year?

A.—Much less! Very much less!

Q.—Where will state adjustment of doctors' incomes start?

A.—With the general practitioner, of course.

Q.—Will the \$20,000-and-up doctor, then, be operated on first—cutting his salary down, and raising the salary of the humble family physician who is looking the family budget in the face?

A.—Let's have order! The question under discussion is not why the family physician is the goat, but why he can't do state medicine for a small consideration.

Hydrochloric Acid

(A Query and a Reply)

IN THE August issue of CLINICAL MEDICINE AND SURGERY, page 591, is the statement by Ferguson that a 1:1,500 hydrochloric acid solution was given intravenously every other day. Does that mean literally what it says? Is there not great danger of rapid, even fatal hemolysis, from the introduction directly into the blood stream of an acid solution?

C. C. JOYNER, M.D.

Farmville, N. C.

My first reaction on the receipt of this query was one of amazement and wonder at the strength of established opinion in the profession. Our professors have taught us that acid solutions injected into the blood stream produce a fatal hemolysis; hence there must be some error in the report of a writer who *thought* he injected acid solutions; who *thought* he saw the phagocytes increase in number and activity; and who *thought* he saw improving clinical manifestations in infected individuals.

I can assure Dr. Joyner that I *really* injected this hydrochloric acid solution, 1:1,500, into the blood stream and that many counts, before and after these injections, showed a material increase in the numbers of the white cells and such phago-

*Adapted from a "Quiz Compend," by H. N. J., in *Med. Herald*, Nov., 1930.

cytic activity as I have never seen after the use of any other agent. There was no indication of any harmful hemolysis.

In November, 1927, I heard Dr. Granville S. Hanes, of Louisville, discuss the remarkable effect of the local injection of a 1:3,000 solution of hydrochloric acid in the treatment of pruritus ani. Dr. Hanes showed photographs of these patients, before and after the injection of this drug, which left one in no doubt of the beneficial effects of this procedure, and said, in his conclusion, that he had no explanation to account for the remarkable consistency of the good results that he had seen during his seven years of observation.

Since I had been using the white cells for several years, in the treatment of all manner of infections, and under their apparent influence had witnessed the demolition of pathologic tissue, the repair of wounds and the elimination of harmful organisms, I felt convinced that, by these injections, the leukocytes were being stimulated in numbers and activity, and that, in hydrochloric acid, Dr. Hanes had found a remarkable stimulant for the phagocytes.

I at once began the use of the acid solution in the treatment of coryza, gonorrhea, infected wounds, influenza, syphilis and tuberculosis, making reports from time to time, in various journals, of my observations. During this time, the drug was administered subcutaneously or intramuscularly. This procedure was objectionable to my patients, for they were never without a most uncomfortable souvenir of the last visit to their medical adviser.

During this period I, too, was controlled by the same established opinion held by Dr. Joyner, that acid could not be safely injected into the blood stream. At last I determined that there must be an end to the intramuscular injection of the hydrochloric acid, so I took two negro boys, one with a recurrence of lupus vulgaris and the other with an aneurism of the pulmonary artery, as shown clinically and by a fluoroscopic examination. I brought both of them to the office, at the same time, for the injection of the supposed lethal solution.

If suggestion had its fancied powerful effect, both of these boys would now be where the good negroes go for, with each cubic centimeter of the "dangerous" drug, my all-but-breathless assistant and I made anxious inquiry as to their sensations. After

several minutes the injection of 10 cc. was complete, and one of the boys said, "Doctor, that shot is lots better than them you used to give me in my bottom." (This was the lad with the lupus.)

I kept the two boys about the office for two hours after the first intravenous injection of the acid, and *there was no reaction*. I had them return the next day for the second injection, and so on, daily for fourteen days, I gave each of them 10 cc. of a 1:1,500 solution of hydrochloric acid, c. p. At the end of this time, the boy with the aneurism of the pulmonary artery was taken on by a drug store as a delivery boy, and the lupus case had so far improved that he was employed by a department store, also as a delivery boy. After observing these boys for three days I discontinued all intramuscular injections.

"Protective fluids, other than serums, manifest their influence by only exciting a great phagocytic 'superactivity'. As the result of their injection into the peritoneal cavity of normal guinea-pigs, first a transitory phagolysis is induced, this being soon replaced by a very considerable afflux of leukocytes, which is maintained for 24 hours or longer, and then gives place to the normal condition. It is during the period of the greatest leukocytosis that the animal exhibits the most marked resistance against infective microorganisms."

The foregoing laboratory observations of Metchnikoff are altogether of a kind with my clinical experiences in the use of the intravenous injection of hydrochloric acid, 1:1,500.

BURR FERGUSON, M.D.
Birmingham, Ala.

New Prospects in Parkinson's Disease

THE hopelessness of the parkinsonian syndrome has aroused many an effort to control it. Several years ago, largely as the result of the work of the late Dr. W. N. Berkeley, of New York, the relation of the parathyroid glands to this condition was made clear.

Since then, it has been shown that parathyroid damage is quite common in cases of paralysis agitans coming to the autopsy table, and at least two explanations have been offered why parathyroid therapy may be helpful in the treatment of this disease.

It now appears that there is an alternative method of treatment that looks very promising. This also is an organotherapeutic measure, and consists in the administration of the adrenal cortex hormone.

I have found that Adreno-Cortin is valuable in many cases of muscular toxemia, such as heart conditions resulting from hyperthyroidism or pneumonia, alimentary stasis, and serious cachectic states like Addison's disease, cancer, etc. I have said nothing about Parkinson's disease, but several San Francisco physicians have applied this idea in paralysis agitans, on the supposition that much of the discomfort in this condition is due to the excessive muscular activity that is present almost incessantly during the waking hours, except when the patient is under the control of drugs like hyoscine.

Suffice it to say that the hormone influence of this principle upon muscle chemistry is such that patients with Parkinson's disease receive prompt symptomatic benefit from it. It is believed that this result is temporary and not curative. Parkinson's disease, like many other neurologic problems, still remains unsolved.

HENRY HARROWER, M.D.,

Glendale, Calif.

The Control of Cancer of the Breast in Women

WHEN women are properly informed, the majority will not fear cancer of the breast. Men really run a greater risk of cancer of the prostate, not because this form of cancer is more frequent than cancer of the breast, but it is a more dangerous type of cancer, and it is an internal cancer, not like cancer of the breast.

Women who have borne children will soon learn that their greatest protection against cancer of the cervix is a *periodic examination* by the physician who attended them when their children were born. They should insist that their husbands have the same periodic examination after forty, to protect them against cancer of the prostate.

I urge all women who take this periodic examination to request their doctor to examine the breasts. Let me here warn both, the women and the doctors, that if the breasts of one hundred women are carefully examined, lumps will be found, in one or both breasts, in almost twenty-five, but, with the rarest exceptions, the lumps will be of the kind for which operation is not necessary.

Let me contrast the risks the woman runs who is ignorant and uninformed about painless lumps in the breast and slight irri-

tation or warty formations on the nipple, with those of the woman who has the correct information, confidence in her doctor, and just enough fear to urge her to an immediate examination.

The ignorant woman, no matter what she feels in the breast or sees on her nipple, delays, even when she experiences pain. The records show that, up to 1910, the incidence of cancer in this uninformed group was 80, the permanent cures 10, and the group in which operation was not found necessary less than 1 percent.

Now that we have been teaching women through the daily press, weekly and monthly periodicals, and by lectures, there has been a tremendous improvement. The records of the same clinic show that, in this enlightened group, the incidence of cancer has been reduced from 80 to 17 and the actual cures have been increased from 10 to 60 percent.

But the figures are even more encouraging. Of every 100 cases, in 65 the examination revealed conditions, whether painful or not, that are not cancer and have no relation to cancer. For this reason, operation is not indicated. In the remaining 35 percent, there is a definite lump, and the safest procedure is an operation in a hospital, often performed under local anesthesia. It can now be performed under rectal anesthesia, the easiest of all. The lump is removed and examined at once, in frozen sections, under the microscope. In more than 50 percent of the cases the lump is not cancer, and the breast is saved. When the microscope shows cancer or a suspicion of cancer, the breast must be removed, but cure usually follows.

When all women report within a few days after the first warning, the chances of cancer will be less, and the number of cures of cancer much larger. Complete protection from cancer of the breast rests upon research.

Women who have borne children will be and are being taught the care of the nipple. When the nipple is neglected during the nursing period and irritation develops, there is always danger of inflammation of the breast, with or without abscess. This is not dangerous, but gives great discomfort. So well informed are nursing mothers today and so carefully watched by the doctor and cared for by the nurse, that the actual occurrence of abscess of the breast has been

reduced from more than twenty percent to less than two.

The same kind of irritation of the nipple in a woman over thirty, when there is no nursing child, if neglected may lead to Paget's cancer of the nipple (Sir James Paget, an English surgeon, described this in 1850). The proper care and cleanliness of the nipple, the moment there is any irritation or scaling, will protect it against cancer.

One statistician is of the opinion that, in this country, in the past few years, deaths from cancer of the breast in women are on the decline. Women should go to their family physicians and get this correct information in greater detail, having no fear. They should, today, have more dread of automobiles than of breast cancer, as the dangers of an accident from an automobile are increasing, while the danger of cancer of the breast is decreasing.

JOSEPH COLT BLOODGOOD, M.D.

Baltimore, Md.

Myasthenia Gravis

AFTER fifty-four years of practice I have encountered my first case of myasthenia gravis, or asthenic bulbar paralysis, as it is sometimes called.

The patient is a man 77 years old, and the first symptom he noticed was an excess of saliva, with drooling; then difficulty in articulation; then trouble in swallowing. These have been coming on, progressively for two years or more.

Since Jan. 1, 1931, he started to lose weight rapidly, because he could not swallow food, but is now being fed milk, raw eggs, melted butter and gruels of cream of wheat, oatmeal, etc., through a stomach tube, and is holding his own.

Ptosis is now present in both eyes; his fingers are affected, so that writing is difficult; he uses his tongue fairly well, but cannot whistle or blow through his lips; his Wassermann test is negative. In spite of these disabilities he feels perfectly well, aside from the easy fatigability which is characteristic of the disease, and does some work in his office.

The diagnosis has been confirmed by five physicians in Nashville.

As the prognosis given in the books allows a patient with this malady only two or three years to live, and as this patient is

myself, I shall be glad of any helpful suggestions which the readers of *CLINICAL MEDICINE AND SURGERY* may be able to offer.

R. W. MASON, M.D.,

Lancaster, Tenn.

[There seems little doubt from Dr. Mason's description of his case that he is indeed suffering from asthenic bulbar paralysis, or myasthenia gravis, which is so rare a condition that it is not surprising he has never seen a case before.

This disease, whose origin is very obscure, has nothing whatever to do with the nervous system and the chief pathologic change regularly reported consists in an infiltration of the muscular tissues with small, round cells resembling lymphocytes, and is sometimes spoken of as a lymphorrhagia. One of the best recent discussions of the histologic findings is that by Alter and Osanto which appeared in the February, 1930, issue of the *Archives of Neurology and Psychiatry*.

The symptoms in Dr. Mason's case are so nearly typical that it is unnecessary to recite those any further and the generally accepted prognosis is, as the Doctor well knows, very gloomy.

There have, however, appeared rather recently two interesting suggestions which are well worth trying in any case of this disease. The first was by Dr. Arthur P. Noyes and appeared in the *Rhode Island Medical Journal* for April, 1930. He recommends the administration of whole adrenal substance (not adrenalin or epinephrin). It seems probable that the effective agent here is the adrenal cortex, and one of the preparations of this substance, such as Adreno-Cortin, is worthy of a trial.

The other suggestion is contained in an article by Dr. Harriet Edgeworth in the *J.A.M.A.* for April 12, 1930 (abstracted in *CLIN. MED. AND SURG.* for June, 1930, page 478). She recommends the daily administration of three $\frac{1}{4}$ -grain doses of *ephedrine*, and states that in her own case, after having been in bed for several years with this disease, this drug enables her to be about the house and to do a certain amount of work. That, too, is well worth trying.

A third suggestion has appeared in several places to the effect that since it has

been shown that in myasthenia gravis there is an unusually large excretion of calcium, the administration of large doses of calcium lactate, preferably combined with lactose, has shown some favorable results in certain cases.

In addition to these more or less specific suggestions, a great deal of rest in bed is usually desirable; and the diet may profitably be reinforced with a concentrated and readily assimilable food such as Trophonine, as well as with fruit and vegetable juices, to supply the necessary vitamins.

If any of our readers have had experience with this disease and know of other remedies which have proved helpful, they are urged to write directly to Dr. Mason and offer their suggestions and also to communicate them to us for possible publication.—Ed.]

General Recommendations

Of the White House Conference on Child Health and Protection

EVERY American child has the right to the following services in its development and protection:

The Conference is mindful of the special emphasis needed upon these services in child health and protection in Porto Rico, the Philippines and other insular possessions

1.—Every child is entitled to be understood, and all dealings with the child should be based on the fullest understanding of him.

2.—Every prospective mother should have suitable information, medical supervision during the prenatal period, and competent care at confinement. Every mother should have postnatal medical supervision for herself and child.

3.—Every child should receive periodical health examinations before and during the school period, including adolescence, by the family physician or the school or other public physician, such examination by specialists and such hospital care as its special needs may require.

4.—Every child should have regular dental examination and care.

5.—Every child should have instruction in the schools in health and in safety from accidents, and every teacher should be trained in health programs.

6.—Every child should be protected from communicable diseases to which he might

be exposed at home, in school or at play, and protected from impure milk and food.

7.—Every child should have proper sleeping rooms, diet, hours of sleep and play, and parents should receive expert information as to the needs of children of various ages as to these questions.

8.—Every child should attend a school which has proper seating, lighting, ventilation and sanitation. For younger children, kindergartens and nursery schools should be provided to supplement home care.

9.—The school should be so organized as to discover and develop the special abilities of each child, and should assist in vocational guidance, for children, like men, succeed by the use of their strongest qualities and special interests.

10.—Every child should have some form of religious, moral and character training.

11.—Every child has a right to play, with adequate facilities therefor.

12.—With the expanding domain of the community's responsibilities for children, there should be proper provision for, and supervision of, recreation and entertainment.

13.—Every child should be protected against labor that stunts growth, either physical or mental; that limits education; that deprives children of the right of comradeship, of joy and play.

(a) Full-time public welfare services for the relief and aid of children in special need from poverty or misfortune, for the protection of children from abuse, neglect, exploitation or moral hazard should be encouraged.

14.—Every child who is blind, deaf, crippled or otherwise physically handicapped should be given expert study and corrective treatment, where there is the possibility of relief and appropriate development or training. Children with subnormal or abnormal mental conditions should receive adequate study, protection, training and care.

15.—Every waif and orphan in need must be supported.

16.—Every child is entitled to the feeling that he has a home. The extension of the services in the community should supplement and not supplant parents.

17.—Children who habitually fail to meet normal standards of human behavior should be provided special care under the guidance of the school, the community health or welfare center or other agency for continued supervision, or, if necessary, control.

18.—Where the child does not have these services, due to inadequate income of the family, then such services must be provided to him by the community. Obviously, the primary necessity in protection and development of children, where poverty is an element in the problem, is an adequate standard of living and security for the family within such groups.

19.—The rural child should have as satisfactory schooling, health protection and welfare facilities as the city child.

20.—In order that these minimum protections of the health and welfare of children may be everywhere available, there should be a district, county or community organization for health education and welfare, with full-time officials, coordinating with a state-wide program which will be responsive to a nation-wide service of general information, statistics and scientific research. This should include:

- (a) Trained, full-time public health officials, with public health nurses, sanitary inspection and laboratory workers
- (b) Available hospital beds.

21.—The development of voluntary organization of children for purposes of instruction, health and recreation, through private effort and benefaction. When possible, existing agencies should be coordinated with each other and with Governmental services.

It is the purpose of this Conference to establish the standards by which the efficiency of such services may be tested in the community and to develop the creation of such services. These standards are defined in many particulars in the reports of the committees of the Conference. The Conference recommends that the Continuing Committee, to be appointed by the President from the Conference, shall study points upon which agreement has not been reached, shall develop further standards,

shall encourage the establishment of services for children and report to the members of the Conference through the President.

The Psychic Researcher

THE true psychic researcher should not endeavor to prove (or to disprove) anything. His sole aim should be to arrive at the truth—whatever that may be. He should no more "hope" to prove the truth of spiritualism than to disprove it. His duty is to record facts, and draw logical deductions from those facts. If the observed facts seem to indicate a positive conclusion, this should be given fully and frankly. If they point in the opposite direction, this should be stated with the same impartiality. The will-to-believe or the will-to-disbelieve should never be allowed to influence the judgment in one way or the other.

A specialized training is necessary for this work. Our ideal investigator must have a thorough knowledge of the literature of the subject; he must have a good grounding in normal and abnormal psychology; in physics, chemistry, biology, photography, and some laboratory experience; he must be a keen observer, a good judge of human nature and its motives; he must be well trained in magic and sleight-of-hand; he must be shrewd, quick of thought and action, ever on the alert, patient, resourceful, open-minded, tolerant, rapid in his observations and deductions, sympathetic, and have a sense of humor! He must be free from superstition, and at the same time unswayed by bigotry—theological or scientific. In short, an ideal psychic investigator is hard to find, and it is probable that such a man is born rather than made.

What is needed above all else is helpful criticism, patient investigation, and the constant accumulation of new facts.—HERWARD CARRINGTON, in *Psychic Research*, Feb., 1931.

PRECEPTS FOR MEMORY

The thing to be remembered must be observed carefully and thoroughly understood; second, it must be compared with something already well known, and assigned its place beside it in the mind; third, it must be repeated attentively a few times; and fourth, it must be completely forgotten when the mind turns to something else.—ERNEST WOOD, in "Memory Training."

THE LEISURE HOUR

Easter



When Christ the Lord called Lazarus back to earth;
When He restored the sorrowing widow's son
And raised the little maid whose soul had gone,
He but declared Himself; but brought to birth
A fragment of His power, and all the worth
Of life for us foretold. But when upon
The cross He died, and rose again from dearth
And ruin, then His crowning gift we won.

So, ring the bells! With allelujas shout
The joyful song till earth and sky o'erflow
With ravishment! Bring shining lilies out
To stand in matchless beauty all aglow;
Spread tulips red His altars round about,
While bells from Heaven meet answering peals below.

HELEN LAKE.



Distressing Infestation

Jones had shyly but admiringly watched the two young women as they came into the car and took the seat in front of him. They were so sweet, so charmingly sweet and dainty, that he unconsciously sighed, and then consciously sighed again, because they had not the pleasure of his acquaintance. But suddenly a shock thrilled through him—a torturing agonizing shock, as when one's dentist drills into a nerve.

"I haven't a single bug this year," the girl next the window was saying proudly. "I've looked and looked, and I can't find a single one."

"Oh, I have millions!" said the other girl despondently. "I don't believe I ever had half as many before in all my life."

Jones grew red clear to the tips of his ears.

"Haven't you done anything for them?" asked the one next the window.

"Yes, I've washed and powdered, and powdered and washed, and done everything; but they just seem to thrive on it," replied the other despairingly. "I don't believe I'll ever get rid of the horrid things."

Jones grew redder, and fidgeted frantically as a terrific itch developed suddenly in the small of his back.

"Have you used tobacco?" asked the one next the window suggestively.

"Pounds and bushels of it," replied the other hopelessly.

"And I thought it was that old reprobate over there who made this car so rank," murmured Jones, with an apologetic look at the old laborer across the aisle.

"Well, you'll have to do something for them," declared the one next the window, signalling for the car to stop, "or you'll be eaten up alive by them."

"I know it," replied the other, as they rose, "and I've a notion to burn every rose-bush in the yard, and start all over again."

"Whew!" muttered Jones, mopping the sweat from his brow. "I seem to be a bigger fool every day."

But she was just an optician's daughter—two glasses and she made a spectacle of herself.—*Safety Bulletin.*

When Innocence Is Bliss

Little Mary was left to fix lunch and when mother returned with a friend she noticed Mary had the tea strained.

"Did you find the lost strainer?" mother asked.

"No mother, I couldn't," replied Mary, "so I used the fly swatter."

Mother was nearly swooning so Mary completed it with, "Oh, don't get excited, mother. I used the old one."—*Safety Bulletin.*

First Foreigner: "How are you, I hope?"

Second Foreigner: (also wishing to display his knowledge of English), "Thank you, no doubt."—*Safety Bulletin.*

We have just nicknamed our dog Mars, because from all indications he appears to be inhabited.—*Safety Bulletin.*

Not a Chance

A commercial traveller calling upon a new customer produced by mistake a snapshot of his fiancée instead of his business card. "That's the firm I represent," he said. The customer examined the somewhat determined-looking features of the young woman and returned the photograph with the remark, "I'll bet you'll never be the manager of that firm!"—*Patchwork.*

A young lady from Evanston collects antiques and recently acquired a hair cloth chair; and now she knows why her grand mama wore six petticoats and addenda.—*American Stories.*

Waiter—Zoup, sir? Zoup?

Guest—I don't know what you're talking about.

Waiter—You know what hash is? Well, zoup is looser.—*Medical Insurance.*

No Danger

"Will the operation be a dangerous one, doctor?"

"No, no! You can't have a dangerous operation for ten guineas."—*Punch.*

Diagnostic Pointers

Test of Labor

The rules for conducting a test of labor, as laid down by Tweedy are: First, determination of maternal pulse and temperature every two hours, or more often; second, a count of the fetal heart sounds every two hours, or more often; third, when the pulse and the temperature of the mother rise above 100° F., interference is indicated on behalf of the mother; fourth, when the fetal heart sounds rise above 160 or fall below 120 on three consecutive counts, interference is indicated on behalf of the baby.

In *Am. J. Obst. & Gynec.*, May, 1930, Dr. J. M. Laferty, of Philadelphia, states that the Tweedy test has proved its value in 14 years of clinical trial at St. Mary's Hospital, Philadelphia. It failed to warn in time or at all in only 13 percent of 231 serious complications of labor. It has been a factor of considerable importance in the production of a low maternal and fetal morbidity and mortality ratio.

Tumors of the Breast

About one-third of all women who apply for treatment of a supposed breast tumor have no tumor at all; in another third the tumor is benign; only one-third of such patients show malignant tumors. We must study the differential diagnosis very carefully.—DR. ARTHUR DEAN BEVAN, of Chicago.

Laboratory Test for Smallpox

The laboratory test for smallpox, described by Gordon in 1925, has since been put to many clinical tests and found very satisfactory. Gordon demonstrated that the virus of smallpox gave both specific fixation and flocculation with an antivariola serum. The reaction is carried out with a suspension of crusts from a suspected case and a specific flocculation serum prepared in the rabbit.

Opinions in the United States and England are, however, divided as to the specificity of the reactions. — *Internat. Med. Digest*, Feb. 1930.

Zondek-Aschheim Pregnancy Reaction

A positive result with the pregnancy reaction of Aschheim and Zondek gives very definite evidence of pregnancy. The negative result of the reaction excludes pregnancy with 100 percent surety.—R. BRÜHL, *Deut. med. Wchnschr.*, lv. 696, 1929.

Intestinal Tuberculosis

On the basis of 67 cases of far-advanced pulmonary tuberculosis, studied clinically, roentgenologically and at autopsy, in relation to a diagnosis of tuberculous ulceration of the intestines, we have found that the roentgenologic signs usually considered diagnostic of this condition were highly unreliable in over 52 percent of our cases.—DR. M. MAXIM STEINBACH, in *Am. Rev. of Tuberculosis*, Jan., 1930.

Raynaud's Disease Due to Arsenic

A case of Raynaud's disease is reported, the etiologic factor in which was an exposure of 14 years to arsenical insecticides.

As arsenic is a frequent contaminant of many articles used for food and other purposes, it should be searched for as the possible etiologic factor in other cases of this syndrome.—DR. A. F. KRAETZER, of New York, in *J.A.M.A.*, Apr. 5, 1930.

Trauma and Syphilis

It is now well established that trauma may be the precipitating cause in the relighting of an old syphilitic infection; that is, if an individual had not been injured, the active manifestations of neurosyphilis may not have become apparent for some

time. This subject is of great interest and is very important in compensation work. It should not always be assumed that, merely because a person has syphilis, all the symptoms are therefore referable to this disease. On the other hand, it cannot always be taken for granted that, in every case of trauma of the nervous system, the syphilitic symptomatology is precipitated. Each instance will have to stand on its own merits, but it is well to keep this relationship in mind.—DR. T. H. WEISENBURG, Philadelphia, in *New York St. J. Med.*, May 15, 1930.

Simple Indigestion

The question might be asked whether there is any such thing as simple indigestion. No doubt this will depend upon what we consider simple indigestion. Abuse of food and drink, neuroses, constipation, colitis, may be considered simple, if we wish. A majority of cases of indigestion belong to the so-called functional group; but chronic gallbladder disease is responsible for many cases.

Any one may observe that spoiled food or worry may be associated with a temporary gastric retention. Possibly this is due to spasm of the pylorus or perhaps the whole stomach participates in the failure to empty. Nervous reflexes, passive congestion, toxemias and inflammations, all may play a part in causing symptoms.—DR. S. L. IMMERMANN, Philadelphia, in *M. J. & Record*, May 21, 1930.

Complications of Hyperopia

Hyperopic eyes are predisposed to conjunctivitis and blepharitis, phlyctenular affections, congestion of the retina and choroid, internal squint and glaucoma.—DR. CHAS. H. MAY, in "Diseases of the Eye."

The Eye in Diagnosis

The study of pathology in the living eye, with the ophthalmoscope, along with microscopy of the living eye, should give every medical man of the future better conceptions of pathologic facts and bridge the gap that has existed between the studies of the dead-house and the laboratory and the study of symptoms, as manifested by the living patient. It is important that all

physicians should know something of these facts and methods of investigation.—DR. E. JACKSON, Denver, in *Eye, Ear, Nose and Throat Monthly*, April, 1930.

Management of Squint in Children

When dealing with a squinting child there are only four facts to bear in mind:

1.—If an eye squints for any length of time the child will develop an *amblyopia ex anopsia* in the squinting eye.

2.—Unless binocular single vision is developed before the age of six, it will be very difficult to develop it thereafter in the majority of cases.

3.—Binocular single vision is quite essential in estimating the third dimension.

4.—All squints should be corrected as soon as possible. This applies to children beginning at the age of 1 year. Most of these children have a high refractive error and if this is corrected early it will definitely prevent the squint.—DR. A. N. LEMOINE, Kansas City, Mo., in *Med. Herald, Physic. Therap. & Endocrine Survey*, June, 1930.

Pruritus

An itching skin should be regarded as a signal of systemic disturbance that needs adjustment before proper treatment can be given. The habit of merely prescribing some local antipruritic brings discredit to the medical profession. Each patient with an itching skin should receive close individual study, as the associated conditions are variable.—Editorial, *The Med. Herald Physic. Therap. & Endocrine Survey*, June, 1930.

Hypertension and Allergy

Dr. G. L. Waldbott is cited as arriving at the following conclusions regarding hypertension and allergy:

Evidence indicates that some cases of unexplained hypertension may be caused by allergy.

In individuals of two families, the syndrome of hypertension occurred in association with allergic disease.

Some cases of "essential hypertension" recorded exhibited definite allergic features and showed improvement on an allergen-free management. — *Med. Herald, Physic. Therap. & Endocrine Survey*, June, 1930.

Pellagra and Sprue

Pellagra and sprue are essentially local-ity diseases. These maladies rarely develop outside of special localities. They are not transmissible. Up to the present, no specific bacteria have been discovered in any way related as an etiologic factor.

Sprue and pellagra centers have one point in common: They represent areas where excessive sunlight is prevalent but do not appear in all localities of this character. Thus, one may infer that, aside from the excitatory factor sunlight, there must exist in a center an excessive amount of ground radioactivity, which acts synergistically with the solar ray factor and, in the presence of nutritional disturbances, produces these diseases.—COL. F. M. HARTSOCK, Med. Corps, U. S. A., in *Mil. Surgeon*, April, 1930.

Functional Disease as Personality Disorder

Functional disease is a form or expression of personality disorder. It is an expression of variations from equilibrium of the total personality.—DR. IRA S. WILE, New York, in *Med. J. & Record*, June 18, 1930.

The Finger Nails in Tuberculosis

A recent study by A. G. Hahn shows that pitting of the finger nails was present in every one of 50 patients with active tuberculosis; in only 3 out of 50 patients in whom the disease was inactive; and in none of a group of normal controls.

Downward-curving nails were present in 76 percent of actively tuberculous patients; in 50 percent of inactive cases; and in 30 percent of controlled cases.—"Current Comment," *J. A. M. A.*, July 19, 1930.

Hemoptysis

Hemorrhage from the lungs is most commonly the result of a tuberculous lesion. This is because of the frequency of that disease, however, rather than because bleeding is more common in tuberculosis than in nontuberculous disease. Almost all diseases of the lung may produce bleeding of some degree.

In my opinion, every person who bleeds from the lungs should have one of two ac-

companying signs to justify the diagnosis of tuberculosis: (1) A lesion of the upper lobe, demonstrable by clinical examination or by roentgen-ray study; or (2) sputum that contains the bacilli of tuberculosis. There are, however, certain reservations.—DR. W. S. LEMON, The Mayo Clinic, in *Canad. M. A. J.*, May, 1930.

Schizophrenia

Any person who can correctly analyze his own dreams, without any previous instruction, is a schizophrenic.—DR. A. A. BRILL, in *Am. J. of Psychiatry*, Nov., 1929.

The Basal Metabolism Rate

The present-day custom of determining the basal metabolism rate does not comply with scientific requirements. A single determination is of no value, especially if the patient does not cooperate fully and if no attention is paid to the food intake for several days preceding the test. In order to be useful, the test should be repeated several times.—Editorial, in *Med. Herald and Phys. Therap.*, Apr., 1930.

Sweating

The sweat glands of human beings have three important functions: (1) the regulation of the body temperature; (2) the facilitation of physical work; and (3) the protection of the skin.—DR. Y. KUNO, in *Lancet*, Lond., Apr. 26, 1930.

Standards of Child Health

No single set of facts, such as height and weight, is adequate in itself to appraise and pass judgment on the health of the child. Mental and physical factors, his previous history, his race, his present condition, his opportunities and background, all are important. The normal differences which exist between individual children must be given due weight.—Committee on Growth and Development, White House Conference.

Suspected Juvenile Tuberculosis

From a clinical and roentgen-ray study of 306 cases of suspected juvenile tuberculosis, with special reference to the evaluation of nine clinical symptoms, ten clin-

ical signs, nine roentgen observations and the tuberculin test, it has been found that commonly accepted clinical symptoms and signs have no diagnostic significance unless these are definitely correlated with positive tuberculin tests and roentgen observations that are positive for tuberculosis.—DRS. F. EBERSON, JESSIE F. DELPRAT AND E. WOLFF, of San Francisco, in *Am. J. Dis. Child.*, Oct., 1930.

Rectal Examinations for Life Insurance

A rectal examination is generally omitted by insurance examiners, but statistics indicate that approximately 80 percent of intestinal cancers are found in the rectum. Inasmuch as rectal cancer may produce few or no symptoms in its early stages, a person so afflicted may, in good faith, apply for and receive insurance. Insurance companies would certainly benefit if more attention was paid to this subject.—DR. L. GOLDBACHER, Philadelphia, in *M. J. & Record*, Dec. 18, 1929.

Herpes Zoster and Angina Pectoris

The close resemblance between the pain of herpes zoster and that experienced in certain types of angina pectoris is striking. Three patients with herpes zoster subsequently developed angina pectoris and died of coronary artery disease.

The characteristic burning pain experienced in herpes zoster resembles that of angina pectoris and patients may confuse the two. The two conditions exhibit identical zonal areas of altered skin sensitivity.

There is a possibility of a common etiological background in both herpes zoster and angina pectoris of the neurogenic type.—DRS. A. E. PARSONNET, Newark, N. J., and A. S. HYMAN, New York, in *Ann. Intern. Med.*, March, 1930.

Feeble-mindedness

The determination of feeble-mindedness is based upon standards of performance of thousands of supposedly normal individuals at different ages.—DR. MEYER SOLOMON, Chicago.

Diagnosis of Postoperative Intestinal Obstruction

A study of 67 cases of acute, postoperative, intestinal obstruction, shows that there is a definite early period when pain is present, along with some distention of the abdomen. This is often considered as "gas pain," but is more severe and colicky. Nausea, vomiting and hyperperistalsis are not usual at the early stage.

X-ray examination is very helpful as a confirmatory measure. Distended loops of small bowel are seen in early obstruction and confirm the diagnosis, in the presence of clinical signs.—DR. F. M. DOUGLASS, Toledo, Ohio, in *Am. J. Obstet. & Gynec.*, Feb., 1930.

Ovarian Headache

Exhaustive study of a patient who had suffered constantly from headaches for 20 years—the pain always starting at the base of the neck on the right side and extending upward and forward over the top of the head and about the right eye—suggested that the internal secretion of the ovary in some manner caused these headaches.—DR. MAURICE KAHN, Los Angeles, in *Am. J. Surg.*, Dec., 1929.

Prevention of Deafness

In the United States there are nearly four millions of deafened children. In the adult deaf there is almost invariably a history of chronic otitis during infancy. It is of the utmost importance, therefore, that a child, subject to frequent head or throat colds, should have his ears carefully observed and the hearing properly tested. Likewise, children with a chronic secretion from the ears should be examined by an otologist, with a view to determine whether the discharge is merely wax or is due to chronic otitis. A child's hearing should be tested after he has recovered from an attack of measles, scarlet fever or diphtheria, even though no ear complications are present.—DR. E. M. FREUND, Albany, N. Y., in *Med. Times*, May, 1930.

Current Medical Literature

Acriflavine in Infections of the Uterus

Can the infected uterus eliminate antiseptic dyes employed in sufficient concentration to inhibit the infection?

In *Am. J. Obstet. and Gynec.*, Dec., 1930, Dr. J. L. Meyer, of Chicago, who has investigated this question, using female dogs as subjects, reports that the condition under which the experiments were conducted approximated those met with in practice following spreading of infection from the cervix.

The treatment consisted of one intravenous injection of a 1-percent aqueous solution of acriflavine. The amount injected was 1 cc. per 10 pounds of body weight, or about 0.0025 Gm. per kilo—about half the dose usually employed in the human subject.

The observed results show that the intravenous injection of an appropriate dose of acriflavine has a definite beneficial effect on the course of the experimentally infected uterus of a dog. The earlier the dye is injected the more definite the effect. In some instances sterile cultures of the inoculated or infected uterine horn were obtained after acriflavine therapy.

The beneficial effect of the acriflavine on the course of the uterine infection is also shown by a return to normal in body temperature, by lysis.

On the basis of these results, it is believed that intravenous injections of acriflavine, in appropriate doses, is worthy of being tried in early uterine infections; that is to say, before the entire mucous membrane is destroyed by the infectious process. There need not, for beneficial effects, be a sudden drop in temperature following the injection.

Education of Physicians in Prevention

In *Birth Control Review*, Jan., 1931, Dr. Jas. F. Cooper suggests that the education of physicians, whose medical training did not include the study of contraception, and the education of students now in our medical schools must proceed until the practice of contraception is accepted as essential in lowering obstetric mortality; until there is a contraceptive service in all of our larger hospitals and health centers, so that the poor and unfortunate, who so often sadly need this advice, may find it as readily available as any other measure recommended for the prevention of disease and the conservation of health.

Dr. W. J. Robinson, says that it is just as important for a physician to know how to prevent undesirable and undesired pregnancy as it is to prevent the spread of typhoid or the

contraction of any infectious disease; but the percentage of physicians who know nothing, or practically nothing, about the prevention of conception is truly and tragically amazing.

The Continuous Method of Hay-Fever Treatment

By the continuous method of hay-fever treatment is meant the administration of the maximal, protective dose of pollen extract, at approximately monthly intervals, throughout the year.

In *J. Allergy*, Nov., 1930, Dr. K. D. Figley, of Toledo, Ohio, reports that 65 patients have been observed under continuous treatment at monthly intervals for from two to four years each. These patients showed the usual degrees of sensitiveness, varieties of clinical pollen sensitivity and other allergic manifestations, such as would be found in any similar group of unselected hay-fever cases.

Ten constitutional reactions occurred in slightly more than 2,000 injections of pollen extract at monthly intervals—a ratio of one reaction to every 200 injections.

The results of treatment in each instance equalled or bettered the first year's preseasonal treatment.

Six patients have, in all probability, obtained a clinical cure—4 after four years' continuous treatment and 2 after three years' continuous treatment.

Nitrite Reaction in Diagnosis of Influenzal Meningitis

The ability of *B. influenzae* to reduce nitrates to nitrites may be used as a rapid diagnostic test in influenzal meningitis.

In *Am. J. Dis Child.*, Sept., 1930, Dr. R. M. Greenthal, of Milwaukee, gives the test as follows:

A few crystals of nitrite-free sodium nitrate were added to a tube of freshly-withdrawn spinal fluid. The spinal fluid was incubated for from four to eight hours, and was then ready for the test. First, a few drops of diluted sulphuric acid were added, then a few drops of diluted potassium iodide solution and then 2 or 3 cc. of starch paste. If nitrites were present, a deep blue color appeared, due to the formation of free iodine by the nitrous acid.

As an illustration of the diagnostic value of this reaction, the following case may be cited. A patient with pertussis and complicating pneumonia developed meningeal symptoms. The spinal fluid contained gram-negative bacilli. The question arose as to whether these organisms were *B. influenzae* or *B. pertussis*, as they are closely related morphologically. The

nitrite reaction with the spinal fluid was positive. *B. pertussis* does not reduce nitrates to nitrites. Further cultural studies of the organism showed it to be *B. influenzae*, which was suggested by the nitrite test. A positive nitrite reaction may be obtained very quickly. In one case, it was strongly positive one hour after the spinal fluid was incubated.

A positive nitrite reaction with the spinal fluid was obtained in thirteen consecutive cases of influenzal meningitis, and was always absent in meningococcic, tuberculous and streptococcic meningitis. The nitrite test, according to the method described, may be used as a rapid corroborative test for the diagnosis of influenzal meningitis.

Tonsillectomy in Cases of Acute Cervical Adenitis

Based on his experience in 40 cases of typical acute cervical adenitis, in children of the average age of 3.6 years, Dr. H. L. Baum, of Denver, in *J.A.M.A.*, Dec. 13, 1930, advocates and defends the principle that it is safe, not dangerous, to remove tonsils and adenoids during the height of an acute anterior cervical adenitis, and that such treatment is the most satisfactory in its results of any yet advocated for this condition.

Dr. Baum defends the performance of a surgical procedure which is contrary to preconceived opinion, recognizing the fact that the operation may frequently be done in such cases in as short a time as two weeks or even ten days from the time of onset of an acute tonsillopharyngitis. This defies a certain prejudice known to exist against early tonsillectomy following an acute tonsillar infection. With this prejudice, as applied to cases in which definite therapeutic benefit promises to accrue, the author does not agree.

Dr. Baum believes that the experience gained in his series of cases amply supports the view that we should not permit preconceived opinion, based more on theory than on experience, to dissuade us from availing ourselves of whatever therapeutic measures are at hand, when these measures seem to be and eventually prove themselves to be most valuable in the management of the particular condition with which we are dealing. He unhesitatingly recommends tonsillectomy as the treatment of choice in acute anterior cervical adenitis which follows a tonsillopharyngeal infection and fails to show definite signs of subsiding spontaneously within one week.

The Prenatal Treatment of Syphilis

There is a marked decrease in fetal and neonatal deaths when syphilis is recognized in the mother and judiciously treated.

In *J.A.M.A.*, Dec. 13, 1930, Drs. U. J. Wile and J. W. Shaw report upon 100 such cases, treated in the University Hospital at Ann Arbor. These patients were all young women, the average age being 19.7 years, and in 55 percent the infection occurred at or shortly after the time of conception. The Wassermann or Kahn tests were strongly positive in 95 percent. Sev-

enty-six (76) of the patients were primiparas and the average duration of the infection in the whole series was 13.8 months.

Treatment was in the form of intravenous injections of arsphenamine in 82; 18 received neoarsphenamine intravenously. Courses were given with from 3 to 6 injections in a course and with an interval of from 1 to 3 months between courses, during which interval mercury inunctions were given. The patients averaged 2.2 Gm. of arsphenamine.

Ninety-two (92) living babies were delivered and of these 33.7 percent gave negative Wassermann or Kahn tests. The others received arsphenamine within the first two weeks of life. Of the total group of 92 babies, 79 were traced and of these 71 (89.9 percent) were living and in apparently good health from 1 to 5 years after birth. This high percentage of infants surviving the first few years of life is attributed largely to the combined prenatal and neonatal treatment instituted.

The Dysmenorrhea Problem

Based on a study of 785 young college women, Dr. N. F. Miller, of Iowa City, in *J.A.M.A.*, Dec. 13, 1930, finds that while it is not justifiable to conclude that faulty posture and poor muscle tone cause dysmenorrhea, a reduction in menstrual pain has occurred along with a decrease in imperfect posture and poor muscle tone, as a result of directed physical exercises. It would seem that the reduction in dysmenorrhea associated with improvement in body mechanics is more than mere coincidence.

Inflammation of the Maxillary Antrum

In *Canad. M. A. J.*, Oct., 1930, Dr. P. G. Goldsmith, professor of oto-laryngology, University of Toronto, expresses the opinion that the causation of the persistence of most head-colds is due to an inflammatory condition within some of the nasal accessory sinuses; that most commonly affected is the maxillary antrum.

Post-nasal discharge, or so-called "catarrh", is due to seepage from an edematous mucosa of an air cell. The most commonly affected is the maxillary antrum.

The teeth at the floor of the antrum are frequently responsible for the beginning of the antral infection, or for the persistence of one caused by nasal inflammation. The antrum should be left alone by dental surgeons, and no effort made to treat antral empyema through an alveolar opening. Much meddlesome surgery is now becoming fashionable in this area and facial-antral fistulae are of much more frequent occurrence.

The antrum may be only a reservoir for the secretion from chronic ethmoidal or frontal sinus disease. When the antrum is infected along with these sinuses, treatment should include the associated cavity as well.

X-ray examination and interpretation of a high order may be very helpful, if taken in conjunction with a knowledge of the clinical symptoms and signs. Taken alone it may be

very deceptive. X-rays are a good servant, but a poor master.

Infection of the mucosa of the maxillary antrum is responsible for most of the nasal complaints in practice.

Some asthmatics, and those with persistent inflammation of the upper respiratory mucosa, derive very striking benefit from radical measures directed to the removal of chronic edematous changes in the antral mucosa.

Simplified Artificial Feeding in Infancy

As stated by Drs. H. P. Wright and A. K. Geddes, of Montreal, in *Canad. M. A. J.*, Oct., 1930, experience in the Montreal Foundling and Baby Hospital has proved that it is perfectly safe to feed normal babies during the first year, by appetite, on lactic-acid-whole-milk, 20 ounces, with the addition of 2 ounces of 50-percent corn syrup, at 4 hour intervals, 5 feedings in the 24 hours and for exactly 20 minutes at each feeding. Boiled water is offered between feedings and the accessory food factors supplied in adequate amounts.

The authors believe that some such simplified feeding as outlined above is safer to place in the hands of the busy general practitioner than one that requires to be modified at regular intervals.

A New Oxytocic—Thymophysin

The addition of thymus gland to posterior pituitary gland has placed at the disposal of the obstetrician a safe and reliable ecolic which can be used without fear of injury to mother or child. It has been put on the market by a Vienna firm, under the name Thymophysin.

In *M. J. & Record*, Oct. 15, 1930, Dr. I. S. Diasio, of New York, states that he has used Thymophysin in 31 cases, administered by the intramuscular route. It increases the force, frequency and duration of feeble labor pains. The use of forceps is rendered unnecessary in at least 75 percent of the cases in which this preparation is used.

Thymophysin

An editorial in *J.A.M.A.*, Jan. 31, 1931, and an article by Dr. E. E. Nelson, of the University of Michigan Medical School, in the same issue, refer to the use of "Thymophysin," a preparation of posterior pituitary and thymus gland extracts, claimed to be an oxytocic to accelerate normal delivery. Many articles have appeared in foreign literature and a few in American literature praising the virtues of this mixture.

Dr. Nelson's experimental and critical study of this substance was undertaken at the suggestion of the Council on Pharmacy and Chemistry of the American Medical Association.

Dr. Nelson points out that the clinical literature reveals no controlled evidence that the oxytocic or pressor activities of pituitary are altered by the addition of thymus extract. In the experimental work it appeared that Thymophysin, at least in this country, is incorrectly labeled as to its strength. The ampules were found to

possess not over one-third and probably nearer one-fourth of the activity claimed, when assayed by either the pressor or the oxytocic methods. Furthermore, as might be expected from the literature on thymus, no difference could be ascertained in the pressor or oxytocic activity of pituitary extract alone, as compared with pituitary plus thymus extracts. When equivalent doses of pituitary extract and Thymophysin were compared on the excised uteri or on blood pressures, a difference in action could not be demonstrated. The theoretical considerations leading to the clinical use of a mixture of these two substances are therefore held not to be established and it is believed that the clinical results obtained can be explained completely as due to small doses of pituitary extract. The glowing claims for Thymophysin are comparable to the early literature of pituitary, but with wide experience the dangers and limitations of the latter have been learned.

Injuries to the Semilunar Cartilages of the Knee Joint

Injury to the semilunar cartilages is the most common cause of derangements of the knee. The semilunar cartilages are generally injured by indirect traumatism, more usually in males while playing some game or performing some task entailing considerable strain on the knee joint. The cartilages are more prone to rip or tear longitudinally than they are to fracture transversely and the internal cartilage is far more frequently the seat of injury than the external. The "bucket-handle" or loop type of injury is the most common and that is seen in more than 80 percent of the cases.

In *Surg. Gynec. & Obst.*, Nov., 1930, Dr. M. S. Henderson reviews 256 such cases operated upon at the Mayo Clinic, the operation usually consisting of the excision of one or more cartilages, more frequently a meniscus.

It is very desirable, before opening the knee joint, that an exact diagnosis should be made and that every attempt should be made to relieve the condition by manipulation. Injury to the crucial ligament very frequently accompanies injury to the semilunar cartilage; when a meniscus is fractured it should be removed.

Of the 256 cases, 234 were injuries to the internal semilunar cartilages and 22 to the external. Of 238 patients followed, 183 have been relieved of all trouble, 34 are improved and 21 not improved. Operation on the internal cartilages is more likely to be followed by good results than operation on an external cartilage.

Cuba's Health Trusts

Health insurance, writes H. S. Stevens, Editor *Medical Economics*, in the Dec., 1930, number, has reached its climax in Cuba, in the Centro, or medical club. These clubs are extremely popular with Cubans, of whom at least 200,000, out of an able-to-pay population of 1,500,000, are members. Furthermore, these members use the Centro medical service for their families at special rates, so that practically there is no paying private practice for Cuban physicians.

The great popularity of the Centro lies in the fact that, in addition to complete medical service, it provides free attractive social and educational advantages for its members.

The health insurance Centro in Cuba is only the development of old-time fraternal clubs. It has grown into such a position of strength that now it entirely dominates the medical profession which, to a great extent, has become its paid servant. The social and insurance aspects of the Centro have overshadowed the poor quality of its medical service and the strength of the Centros, apart from their strong financial position, lies in the hold they have acquired on the majority of the well-to-do population.

It is possible that in the United States, where at present it is difficult to sell health insurance to the people, a system similar to the Cuban Centros may be introduced, which couples social advantages and recreation with health protection. It is a matter for which American physicians should be on the lookout in the embryonic stage.

Venoclysis

By venoclysis is designated the biologic and continuous administration of physiologic and therapeutic solutions, directly into the blood stream. The substance employed must be in perfect solution, sterile and compatible with the blood. In *J.A.M.A.*, Oct. 18, 1930, Dr. G. A. Hendon, of Louisville, states that to a dextrose or saline solution, iron preparations, digifoline, morphine, barbital compounds, calcium, magnesium, citrated blood, or a germicide, such as Metaphen, may be added.

The method is ideal as a postoperative treatment, following a visceral anastomosis.

The apparatus consists of a silver and gold-plated cannula. Two vacuum bottles, suspended from a stand 6 feet high, act as a reservoir for the fluid. A visible rectal dripper is joined to the delivery tube. Physiologic salt solution is used by the author and the fluid delivered into the vein at a temperature of 100°F. The basilic or cephalic vein is preferred.

The author considers venoclysis a safe, simple and efficient method of supplying nutrition and the surest and quickest way to gain a substantial increase in red blood cells; also to combat blood stream infections.

Infiltration Anesthesia in the Reduction of Fractures

In the reduction of fractures, whenever general anesthesia is contraindicated, local anesthesia can be used. In *M. J. & Record*, Nov. 5, 1930, Dr. C. O. Rice, of Minneapolis, based on an experience of several hundreds of cases, states that the only contraindications to the use of local anesthesia in fractures are the presence of an infection or a compound fracture.

Dr. Rice gives the technic as follows: The skin over the fracture is cleansed and sterilized. A one-percent procaine-epinephrin solution is used.

The initial subcutaneous wheal is then made with a small hypodermic needle, about one cm.

proximal to the fracture gap. After this has been made, the small needle is substituted by a longer, fine-gage needle. Ordinarily a one and one-half inch, 22-gage needle is satisfactory for the forearm or leg, but for a fracture of the thigh or hip a longer needle is necessary. By constantly infiltrating ahead of the needle and progressing slowly, the pain associated with the process of infiltration is minimized.

The needle is projected to the bone and directed into the fracture gap, where 5 to 10 cc. of procaine-epinephrine solution is injected. If anesthesia and relaxation do not appear to be developing within three or four minutes, the periosteum of the proximal fragment is then infiltrated around its entire circumference. As many of the bones are triangular on cross section, two sides of the bone can be infiltrated from one puncture, by rerouting the needle without withdrawing it. The remaining side of the bone can be infiltrated from the second puncture. The periosteum about the distal fragment is not infiltrated.

The method has been used at the Minneapolis General Hospital in more than 500 fractures, with perfect satisfaction and without complications.

Treatment for Scabies

A 12 to 14 day treatment for scabies is given by *M. J. & Record*, Oct. 1, 1930, by Drs. D. W. Montgomery and C. D. Culver, of San Francisco. For the first part (5 days), the following ointment is used:

Sulphur praecip.....	3iii — 12.00
Balsam Peru.....	3iii — 12.00
Adipis benzoat.....	3iii — 12.00

One-third of this ointment is applied for each of three consecutive days, rubbed all over the body and well into creases and hollows. The same full suit of underwear should be worn for the five days.

The ointment is then changed to the following:

Creolin	5.00
Vaseline	100.00

Sig. Rub in one-third each night for three nights.

At the end of these treatments, a mixture (called, in Europe, Boeck's paste) is used. Its formula is as follows:

Liq. carbonis detergenitis.....	30.00
(Wright's)	
Amyl	} 40.00
Talc	
Glycerin	20.00
Gum arabic	1.00
Liq. plumbi subacet	4.00
Aq	200.00

Sig. Use as a lotion to allay itchiness.

All bed linen should be thoroughly laundered, cleaned or treated with sulphur powder.

Hexylresorcinol as an Ascaricide

An editorial in *J.A.M.A.*, Nov. 22, 1930, draws attention to the work of Lamson and his co-workers, in the Vanderbilt University School of Medicine in Nashville, regarding the value of crystalline hexylresorcinol as an effec-

tive ascaricide, which is stated to be relatively nontoxic when administered by mouth.

The Nashville pharmacologists state that, after extensive preliminary studies, they find that hexylresorcinol kills rather than anesthetizes the parasites, thus reducing the danger of migration; its irritant action, which should theoretically be merely superficial, has been shown by experiment to be so.

When given as an ascaricide, hexylresorcinol should be taken on an empty stomach, to prevent the possibility of its combination with the proteins of the food.

Allergy and the Acid-Base Balance

In *J.A.M.A.*, Nov. 22, 1930, Dr. H. Beckman, of Milwaukee, while admitting the importance of sensitization in the allergic diseases, thinks that there are other perhaps equally important factors.

Dr. Beckman states that the tendency of the allergic person is toward alkalosis rather than acidosis. He cites the examples of several conditions—diabetes, starvation, acute infections, etc.—characterized by accompanying acidosis, which are usually incompatible with allergic states. He has records of 237 cases of allergic patients very favorably influenced by the following formula in the treatment of hay fever:

Rx Nitrohydrochloric acid.....18.00 Gm. $\frac{3}{4}$ ivss
Waterto make 120.00 Gm. $\frac{3}{4}$ iv
Label: One teaspoonful in $\frac{2}{3}$ glass of water, followed by another glass of water, after meals and again on retiring, as near midnight as possible.

Success with the acid treatment was 33 percent, as compared with 30 percent by desensitization treatment in the hands of expert allergists.

Asymptomatic Neurosyphilis

In *J.A.M.A.*, Nov. 29, 1930, Drs. J. E. Moore and H. H. Hopkins, of Baltimore, present a study of 123 cases of asymptomatic neurosyphilis (including 55 whose admission diagnosis was early and 68 late syphilis). These patients have been studied on the basis of the spinal fluid changes.

Spontaneous regression to normal of positive spinal fluid observations of any degree of intensity is a rare phenomenon.

Five (5) of these patients have died of neurosyphilis within the period of observation—7 years.

The presence of a positive spinal fluid, in patients with early or late syphilis who show no objective neurologic abnormalities, is of grave prognostic significance. Generally speaking, the ultimate danger to the patient is roughly proportional to the intensity of the spinal fluid changes.

On the other hand, a negative spinal fluid in early or late syphilis is, subject to certain qualifications, a practical guarantee of safety for the future, so far as the development of neurosyphilis is concerned.

Routine spinal puncture is an indispensable part of the management of every patient with syphilis.

Technic for Giving Arsphenamine

In the *Weekly Roster and Med. Digest* for Aug. 16, 1930, Dr. John A. Kolmer gives his technic for administering arsphenamine as follows:

- 1.—Place 0.4 Gm. of arsphenamine in a sterile, 25-cc., glass-stoppered cylinder.
- 2.—Add 15 cc. of sterile, redistilled water (may be at room temperature) and dissolve by brief, vigorous shaking.
- 3.—Add 4 cc. of deci-normal (n/10) sodium hydroxide solution.
- 4.—Shake briefly and filter.
- 5.—Inject slowly, intravenously, with a Luer or Record syringe, fitted with a 22-gage needle.

Avertin Anesthesia

Based upon their experience in 500 cases, as reported in *Surg. Gynec. & Obstet.*, Sept., 1930, Drs. C. S. White and J. Kreiselmann, of Washington, D. C., consider that, with Avertin, anesthesia can be induced in an almost ideal manner.

A review of the literature leaves one confused in regard to the evaluation of Avertin as a general anesthetic; but as a basal anesthetic, in combination with gas or procaine, it combines, in the highest degree, safety and excellence in anesthesia.

Non-Union of Fractures

In a very thorough article in *Surg. Gynec. & Obstet.*, Sept., 1930, Dr. F. H. Albee, of New York, shows that non-union of fractured bones results from the disturbance of physiologic principles and that union cannot be facilitated by either dietary, medicamentous or mechanical measures, unless the latter means dispose to physiologic functioning; namely, the production of special granulation tissue. The reparative response after fracture is independent of systemic conditions when an impassable barrier of scar or other tissue between the fracture fragments prevents granulation.

There is only one way to treat non-union and that is by open operation. Albee favors the fresh inlay bone graft, and gives in detail the reasons why it should succeed on physiologic grounds and why, on the same grounds, other methods of treating ununited fractures fail in practice. The technic of preparing and inserting the grafts is described and profusely illustrated. The blood supply is the key to the situation and, if all the vascular elements of the graft cannot be brought into contact with similar elements of the host, the bone marrow at least should be.

Albee gives a tabulated statement of the results in 754 cases of ununited fractures, treated by him during the past 21 years by bone-grafting, principally by inlay grafts. No case has been included in which there was not a complete non-union or pseudarthrosis, nor has any case been included in which union has been present less than 6 months.

In this series of 754 cases, good results have been obtained in 671 (89 percent) and poor results in 83 (11 percent). In the face of

these results, Albee thinks it is superfluous to point out the advantages of the inlay bone-graft method.

Ringworm from Golf Clubs

In *Chicago's Health* for Jan. 6, 1931, Dr. Arnold H. Kegel, Health Commissioner, reports that, in a laboratory study of scrapings from the leather on the handles of golf clubs used by many persons on the miniature golf courses, cultures of fungi recognized as pathogenic for the skin grew in 55 percent of the tubes inoculated, including two or more positive cultures from the handle of each club.

When one considers the condition of the hands of the many people who patronize the miniature golf courses, it seems rather remarkable that this source of possible ringworm infection has not been more strongly stressed ere this.

Painless Childbirth

In *Med. Herald, Phys. Therap. & Endocrine Survey*, Oct., 1930, Dr. W. S. Nickerson, of Faribault, Minn., calls attention to the method, initiated by Dr. H. E. McDonald, ten years ago, of using full anesthesia and pituitary extract at the beginning of labor, instead of at the end of the first stage. Chloroform is used. One-half a mill. of Liquor Hypophysis is placed in a medicine dropper; one drop put in each eye, 2 drops on the tongue and the remainder squirted up the nose. Mechanical pressure of the gloved fingers in the vagina is used to induce uterine contractions and, if necessary, subcutaneous injections of 0.5 cc. doses of Liquor Hypophysis are continued. Eight or more such injections may be given without harm during the course of labor. The patient is spared all pain during the full course of childbirth.

Adnexal Cancer

Though not frequently observed, adnexal cancer occurs sufficiently often to make it a menace.

In *Am. J. Obst. & Gynec.*, Oct., 1930, Dr. B. M. Anspach, of Philadelphia, based on his observations in the Jefferson Hospital, Philadelphia, is of opinion that when postclimacteric bleeding and discharge continue from the uterine cavity, in spite of negative curettage for evidences of uterine malignancy, especially if there is pelvic pain or the bloody discharge is periodic, one may suspect an adnexal cancer; palpable enlargement of one or both sides under such circumstances warrants an exploratory incision.

When, after careful study, adnexal cancer is strongly suspected and yet no definite evidence of adnexal enlargement can be found upon palpation, exploratory section must come up for consideration. The ease of examination in the individual case has an important bearing on the decision. If the patient is thin and palpation of the affected parts is easy, the chance of overlooking an early cancer is small and one may rest content with watchful waiting. When the woman is fat and the examiner cannot be certain that he palpates definitely the ovary or the tube, but suspects adnexal enlarge-

ment, exploratory section ought to be advised, but only after the most complete study, consultation with another gynecologist and a reliable internist, and a full explanation of the situation to the family and sometimes to the patient.

Caution should be observed in the use of radium for the purpose of stopping hemorrhage from the uterus when the reason for the symptom is not clear. This will apply especially to the postclimacteric period when the uterus and mucosa are hypertrophied and we suspect a cancer of the ovary or when the uterus and the endometrium are atrophic and we suspect a cancer of the tube.

Salpingitis Treated by Turpentine Injections

In *Am. J. Obst. & Gynec.*, Oct., 1930, Dr. H. M. Little, of Montreal, reports successful results from the treatment of acute salpingitis by injections of turpentine, which method has been used by him for several years.

The technic is as follows: The abdomen is opened in the midline, the peritoneum being protected by rubber sheeting, and adhesions, carefully removed, either with the finger or by blunt dissection. Tubal masses, when present, are evacuated by means of a syringe with a fairly large needle, after which the syringe is changed and the same needle used to inject a variable quantity of 10 percent turpentine and paraffin oil into the lumen of the tubes and also into their fused fimbriated ends. No attempt is made to prevent this solution from exuding into the pelvic cavity. The uterus is suspended by either the Olshausen or the Baldy-Webster method, using silk ligatures.

In 75 cases (of which the author gives short case summaries), 61 complained of pain on admission, and of these 56 were absolutely free from pain on discharge and have remained so since. Of 53 patients with pelvic masses, 31 at subsequent examination had no palpable mass in the pelvis and 13 were definitely improved. Irregular and profuse bleeding was benefited immediately in practically all cases.

This method of treatment has been adopted by practically all of the general surgeons in the Montreal General Hospital. Usually up to 70 cc. of the solution can be injected without ill effects.

Nupercain, a New Local Anesthetic

Nupercain, a new synthetic (alpha-butyl-oxy-cinchonic acid diethyl-ethylen-diamide hydrochloride) local anesthetic has found favor in Europe, owing to the duration of the anesthesia produced.

It is dispensed in ampoules, dissolved in physiologic saline solution, acidified by one drop of concentrated hydrochloric acid per liter of solution.

In *Am. J. Surg.*, July, 1930, Drs. E. L. Keyes and A. M. McLellan, of New York, report that they have used Nupercain for caudal (59 cases), spinal (46 cases) and for local and surface anesthesia. Their conclusions from their experience are as follow:

1.—Nupercain, in about ten times the dilution of cocaine, is an excellent local anesthetic.

2.—The solution must be kept slightly acid.

3.—It may be boiled. It may be used in conjunction with adrenalin or with procaine.

4.—The minimal reported lethal dose for an adult human being is 90 mg. (90 cc. of 1:1,000 solution). Individuals have survived the administration of 750 and 1,500 mg.

5.—Several surgeons have recognized 200 cc. of a 1:1,000 solution as the maximum dose for local anesthesia. Our maximum dose has been 60 cc.

6.—We have usually given 30 cc. of 1:1,000 solution (30 mg.) for caudal anesthesia; 2 cc. of 1:200 solution (10 mg.) for spinal anesthesia.

7.—Nupercain is preferable to procaine for,

(a) Personal susceptibility to nupercain is negligible, as compared to procaine, and

(b) The resultant anesthesia always lasts ninety minutes, and usually as long as six to eight hours.

Diet and Dental Caries

An editorial in *J.A.M.A.*, Dec. 20, 1930, stresses the importance of dietary factors in the production of dental caries. Recent work has shown that carefully controlled observations in different groups of children disclosed that, in a group in which milk, green vegetables and fruit were prominent, with but little sugar, active caries was observed in only about 5 to 6 percent; in another group, in which mouth antiseptics was practiced, but little attention paid to diet, only 25 percent were free from some degree of caries; in a group, with an unusually good but not ideal diet, in which mouth antiseptics was omitted, only 6 percent showed active caries; in a group where no attention was given either to dietary balance or preventive treatment, only 18 percent were free from some degree of caries.

The effect of a well-balanced diet in the prevention and control of dental caries seems quite obvious from these group studies.

The Injection Treatment of Varicose Veins

In *Illinois M. J.*, Oct., 1930, Dr. A. P. Heinicke, of Chicago, reports that he has treated about 300 cases of varicosities, 40 of which had varicose ulcers and a much larger number an eczematous condition of the skin.

Sodium salicylate, in 20, 30 and 40 percent

solution, was almost always the sclerosing substance used.*

There was no fatality in this series nor any case of pulmonary embolism. Superficial sloughs occurred in 15 cases, all due to faulty injection technic. A recurrence was observed in only 12 cases; these were treated with further injections and a good ultimate result was obtained. Many of the treated patients have been followed for 3 years.

The author feels that, in the future, the injection method of treating varicosities will supersede, in the vast majority of cases, all other now existing methods.

Management of the Puerperal Period

As stated by Drs. A. E. Kanter and A. H. Klawans, of Chicago, in *Illinois M. J.*, Oct., 1930, approximately 75 percent of the women, seen at the end of the usual six-weeks period postpartum, have either retroversion of the uterus, erosion of the cervix or some bladder difficulty. These women are all delivered by general practitioners, interns or medical students, the event taking place in the home or in one of many hospitals. In private specialized practice, only about 2 percent of the patients develop these conditions. The only obvious answer is that the care accorded the private patient during labor and in the puerperium and the early vaginal examination after delivery are the factors responsible for this enormous difference in percentage.

Early activity of the patient is very desirable. The large puerperal uterus tends to retrovert because of its increased weight, and keeping the patient on her back for 8 or 10 days only adds to this tendency. Exercise and movement helps to throw the uterus forward.

Proper care of the bladder saves much future difficulty with that organ.

Vaginal examination before the patient leaves the hospital is a very valuable information-giving procedure. This examination gives one all the necessary information on the condition of the perineum, vagina and cervix, and the size and position of the uterus. If the uterus is found retroverted at this time, the importance of the knee-chest position is explained to the patient and a Hodge-Smith type of pessary is inserted if deemed necessary. The patient is kept under observation.

Iodine douches are a great factor in the prevention of cervical erosion.

*Even better results have been obtained with a combination of sodium chloride and invert sugar, with an analgesic, marketed in ampules as Varisol. Ed.

INSTINCTIVE OPINIONS

When an opinion is entertained with a feeling that it would be absurd, obviously unnecessary, unprofitable, undesirable, bad form or wicked to inquire into it, then we know that the opinion in question is held instinctively and not as the result of personal experience.—DR. WILLIAM A. WHITE, in "Principles of Mental Hygiene."

NEW BOOKS

Meyer: Cancer

CANCER; Its Origin, Its Development and Its Self-Perpetuation; The Therapy of Operable and Inoperable Cancer in the Light of a Systemic Conception of Malignancy; A Research. By Willy Meyer, M.D., Consulting Surgeon to The Lenox Hill and Postgraduate Hospitals, New York Infirmary for Women and Children, etc.; Emeritus Professor of Surgery, N. Y. Postgraduate Medical School. New York: Paul B. Hoeber, Inc. 1931. Price \$7.50.

In the term "cancer" the author includes every kind and type of malignant new growth within the organic body.

Dr. Meyer has been specially interested in a study of the whole question of cancer since 1917, and has published various papers on different aspects of it since then. Of the 38 chapters which make up this work the first 29, concerning the origin, development and self-perpetuation of cancer are revised and expanded versions of these original papers. The remainder of the book, forming part II, is new and deals with cancer therapy.

In general, the author accepts the view that cancer is the result of two conditions, both of which must be present for its production. These are an apparently inherited or acquired predisposition, due to some chronic systemic irritation dependent on a multiplicity of factors, to which must be added a local irritation.

The predisposition to cancer, which the author deems indispensable, is apparently, to a great extent at least, an evolutionary result of civilization or, perhaps more properly, of environmental conditions. The author's views on this point correspond in a large measure to those of Maud Slye.

The whole book is an attempt to bring all that is known of cancer—biologic, experimental and clinical—into harmony with the fundamental thesis as expressed above. Deductions as to a rational cancer therapy lead logically to a therapeutic procedure which consists in the reversal, by various means, of the developmental course of cancer as sketched.

The author justly remarks that the enormous existing literature on cancer is a heterogeneous jumble of observations and theories and that the student who starts to fathom the cancer problem by its help will find himself in an unenviable position. Here, at least, an attempt is made to classify this literature toward a determined end, and to arrange what is known or speculated upon so as to fit that end. No doubt many will disagree with the author's premises and deductions, but they must admit that he makes a very excellent case.

Judged on the whole, the book is one that will be more interesting to physicians from the his-

torical and biologic aspects than from the practical therapeutic viewpoint. We have yet to learn, without equivocation, what cancer is and exactly how and why it is produced. This work brings us nearer by assembling the data, but the question is still in the speculative stage. The printing and other aspects of book-making are excellent.

Moorhead: Traumatotherapy

TRAUMATOTHERAPY; The Treatment of the Injured. By John J. Moorhead, B.Sc., M.D., F.A.C.S., Professor of Surgery and Director, Dept. of Traumatic Surgery, New York Post-Graduate Medical School and Hospital; Surgical Director, Reconstruction Hospital Unit; Colonel Medical Officers Reserve Corps, U. S. Army With 625 Illustrations. Philadelphia and London: W. B. Saunders. 1931. Price \$7.00.

There never was an age in which the treatment of accidents formed such a large proportion of the practice of medicine as the present. This is due principally to the extended use of machinery of all kinds, not only in industrial, but in domestic life, and to the almost universal use of automobiles.

For this reason the technic of treatment becomes of supreme importance, not alone to the surgeon, but to every practitioner as he may, at any time, be called upon to administer first aid.

This work, which is the outgrowth of personal experience, deals with the actual management of all the usual and most of the unusual effects of traumatism. It especially describes the splints, apparatus and other paraphernalia used in the management of the injured and with the details of their application which are often of essential importance in obtaining the best results. The illustrations adequately supplement the text.

The book may be regarded as a kind of supplement to the author's "Traumatic Surgery," which was a pioneer in this surgical field. It is a manual, not only for surgeons, but for hospital interns and general practitioners, who will find in it practical help not readily available elsewhere.

Arlitt: Child Psychology

THE CHILD FROM ONE TO SIX. Psychology for Parents. By Ada Hart Arlitt, Ph.D., Professor of Child Care and Training, University of Cincinnati. With an Introduction by Flora M. Thurston. First Edition. New York: Whitteley House, McGraw Hill Book Company, Inc. 1930. Price \$2.00.

The thing most vitally necessary in the training of children is trained parents; and the education of parents is a surprisingly complicated matter.

This book is valuable beyond its size, for it was written by a woman who thinks clearly and directly and who has a command of English which permits her to express her ideas simply and without waste of words. There is scarcely a line of padding between the two covers. The chapters on obedience, fears, emotional control, child thought processes and the use of money are especially to the point and well considered.

No family physician can (and no physician should try to) perform his full duty unless he is able to advise parents intelligently in the management of their children. A book like this is a valuable part of the training of any medical man, especially a pediatrician, and can be cordially recommended to actual or prospective fathers and mothers, with the certainty that, if studied, it will do much good.

Gunn: Introduction to Pharmacology

AN INTRODUCTION TO PHARMACOLOGY AND THERAPEUTICS. By J. A. Gunn, M.D., D.Sc. (Edin.); M.A. (Oxon.), Professor of Pharmacology in this University of Oxford and Fellow of Balliol College; sometime Examiner in the Universities of Belfast, Bristol, Cambridge, Cardiff, Edinburgh, Leeds, Liverpool, London, Oxford, Sheffield, and to The Royal College of Physicians. Second Edition. London and New York: Humphrey Milford, Oxford University Press. 1931. Price \$1.50.

This is an interesting little book which gives the medical student a general survey of the value, scope and action of drugs, and supplies much information which is not given in professional lectures

Davidson and Gulland: Pernicious Anemia

PERNICIOUS ANAEMIA. By Leybourne Stanley Patrick Davidson, B.A. (Camb.); M.D.; F.R.C.P.E.; Lecturer in Systemic and in Clinical Medicine in the University of Edinburgh; etc., and George Lovell Gulland, C.M.G.; LL.D.; M.D.; F.R.C.P.E.; Professor Emeritus of Medicine and Clinical Medicine in the University of Edinburgh; etc. With Appendix on Dietetic Treatment by Ruth Pybus, Sister Dietitian, Royal Infirmary, Edinburgh. With Introduction by Laurence D. Thompson, M.D., Assistant Professor of Clinical Medicine, Washington University School of Medicine. With 8 Illustrations and 22 Plates of which 12 are in Color. St. Louis: The C. V. Mosby Company. 1930. Price, \$8.00.

In this monograph on pernicious anemia the authors have two objects in view. First, they give a critical review of the literature dealing with every aspect of the disease. This includes particularly the newer dietary treatment with liver, introduced by Whipple and Murphy and Minot. A special appendix on this dietary treatment is included.

The second object of the authors is to express their own ideas on the various problems discussed, based on experimental and clinical experiences of the disease.

While the book appeals more particularly to the specialist, dealing as it does with many

intricate aspects of pernicious anemia (concerning the exact underlying etiology of which we are still much in the dark), the student and general practitioner will derive much valuable clinical information from its study.

Cole: Theories of Generation

EARLY THEORIES OF SEXUAL GENERATION. By F. J. Cole, D.Sc., Oxon., F.R.S., Professor of Zoology, University of Reading. London: Humphrey Milford, Oxford, at The Clarendon Press. 1930. Price, \$6.00

Although Aristotle and other ancient philosophers speculated on the generation of man and other organized beings, and Paracelsus trifled with his homunculus, the history of the modern theories of generation may be said to have begun with the discovery of spermatozoa by Leeuwenhoek, in 1677. Dr. Cole's book deals with the literature on this subject from then to the present day.

The work is one which will be appreciated only by the cultured physician or naturalist who finds delight in following the many bypaths which meander from the highways of medical history. The author deals especially with the development of the doctrine of preformation, which dominated all speculations on the modus of generation for more than a couple of centuries; indeed the idea remains with us still and, although we now know the method of generation by the mechanistic fertilization of the ovum by the spermatozoon, we are still ignorant of the main underlying phenomena of generation, and the old idea of preformation may still play an important role.

That Dr. Cole has done a vast amount of literary research and brought a number of most interesting points to light, will at once be evident in looking over the volume. One of these is his exposition of the perpetuation of the error of the dictum "Omne vivum ex ovo," ascribed to Harvey.

The literary style is charming; the whole subject is handled in a cultured and erudite, yet entertaining, manner which makes the book a "bonne bouche" for the medical literary epicure.

Webb & Morgan: Managing People

STRATEGY IN HANDLING PEOPLE. By Ewing T. Webb and John J. B. Morgan, Ph.D., Associate Professor of Psychology, Northwestern University. Illustrated. Chicago: Boulton, Pierce and Company. 1930. Price, \$3.00.

Whatever one calls one's vocation, the fact remains that every human being is a salesman. We do not all distribute commodities over a counter nor furnish an eager public with stocks, bonds and life insurance; but, more or less successfully, every one is "selling" things or ideas or services—and always one's personality—either for the financial rewards which make living possible or for those intangible values which make the process of living a rich and worthy and joyous undertaking.

The authors of this volume—a business man and a psychologist—have gathered, from their own wide experience and from an immense and well digested mass of source-material, a large collection of anecdotes of men who have been

conspicuously successful in handling people, and have arranged these in an orderly manner in a number of chapters, each of which deals with one phase of the subject.

The prime requisite in handling people successfully seems to be to avoid wounding any man's self esteem and, on the other hand, to use every honest method of increasing it (except in the rare cases of true "peacock" complex) and of convincing each that you appreciate and respect his point of view and accomplishments.

The true leader is content to lead, permitting others to receive the credit for many things which he brings about. Arguments are rarely or never won by a head-on collision of minds and ideas, but rather by strategy and flank attacks. Wit is often a useful helper but, in clumsy hands, may be a two-edged sword. The truly wise handler of people knows how and when to deliver a crushing blow, if that course becomes absolutely necessary; but turns to that expedient only when all kindly methods have failed.

The book was intended, primarily, for actual or potential business executives; but, in view of the fact that seventy-five percent of a physician's success depends on his personality—"the sum total of the effect one makes upon other people"—there is scarce a doctor in the land who, if he would study the suggestions here given and put them into practice, could not increase his professional, economic and social efficiency from fifty to one hundred percent.

Medical Clinics of North America

THE MEDICAL CLINICS OF NORTH AMERICA. Philadelphia Number. Volume 14, Number 4, January, 1931. Philadelphia and London: W. B. Saunders Company. Issued serially, one number every other month. Per Clinic year, July, 1930, to May, 1931. Paper, \$12.00; Cloth, \$16.00.

The January, 1931, number of Medical Clinics of North America is devoted to 23 papers by Philadelphia clinicians.

Those contributions which seem to be of most interest to the general practitioner are "Hypopituitary Disease with Hemiplegia, Hypertension and an Atypical Sugar Tolerance Curve," by Dr. E. A. Strecker; "Duodenitis" (26 cases), by Dr. T. G. Miller; "Bundle-Branch Block," by Dr. H. K. Mohler; "The Imperative Need for Cystoscopy in The Urogenital Diagnoses of General Medicine"; by Dr. P. S. Pelouze; "Liver Therapy: Chemical, Hematologic and Clinical Effects," by Dr. T. Fitz-Hugh; "Liver Function Tests in the Differential Diagnosis of Jaundice," by Drs. H. Shay and E. M. Schloss; "Differential Diagnosis of Spinal Cord Tumors and Sciatic and Lumbar Pain," Dr. D. L. Farley; "Hypothyroidism with Special Reference to the Gastro-Intestinal Tract," by Dr. M. G. Wohl; and "Achlorhydria with Review of One Hundred Cases," by Dr. L. H. Hitzrot.

Phelps: State Medicine

THE SOCIALIZATION OF MEDICINE. Compiled by Edith M. Phelps. Volume VII, Number 1 of The Reference Shelf. New York: The H. W. Wilson Company. 1930. Price \$0.90.

Much talk is heard about the pros and cons of State Medicine, from those who have given the subject little or no broad and impersonal study. Such a lack has been excusable, on the ground that the literature available is large and widely scattered.

This book contains no propaganda, but is an attempt to present a definition of what State Medicine is and to marshal the arguments for and against the adoption of such a plan in the United States. The first 25 pages contain a brief of the two sides of the question. Then comes a reasonably complete bibliography of articles on the subject, followed by abstracts from a number of the recently published articles upholding the affirmative and the negative sides of the debate.

Matters vital to the life and work of physicians are impending, today, and those who familiarize themselves with the present status and possibilities of the socialization of medicine will be better enabled to build soundly for the future.

Glaister: Medical Jurisprudence

A TEXT-BOOK OF MEDICAL JURISPRUDENCE AND TOXICOLOGY. By John Glaister, M.D., (Glas.), D.P.H. (Camb.), F.R.S.E., Professor of Forensic Medicine in the University of Glasgow; Formerly also Professor of Public Health in the University; etc. In Collaboration With John Glaister, Jun., M.B., Ch.B. (Glas.), M.D. (Hons.) (Glas.), D.Sc. (Glas.), Barrister-at-Law of the Inner Temple, London; Professor of Forensic Medicine in the University of Egypt, Cairo; etc. Fifth Edition. With 132 Illustrations and Seven Plates. New York: William Wood and Company. 1931. Price \$8.50.

The author of this work on forensic medicine has forty-eight years experience behind him as a medico-legal expert and a teacher of the subject. The book has run into five editions, which attests its professional appreciation.

While the general principles of legal medicine and toxicology are the same in most civilized countries, making this volume an acceptable one from this standpoint, it is written with the aspect of English and Scottish laws and procedures in sight, and this is a handicap for American readers.

Pye: Surgical Handicraft

PYE'S SURGICAL HANDICRAFT: A Manual of Surgical Manipulations, Minor Surgery, and other Matters Connected with The Work of House Surgeons and Surgical Dressers. Edited By H. W. Carson, F.R.C.S. (Eng.), Late Senior Surgeon, Prince of Wales's General Hospital, Tottenham; Lecturer on Abdominal Surgery, North-East London Post-Graduate College. Tenth Edition: Fully Revised, With Some Additional Matter and Illustrations. New York: William Wood & Company. 1931. Price \$7.00.

This book is an old one, having now run into its tenth edition, and is well known to surgeons throughout the British Empire. It goes into details of the how in performing the fundamental manipulations in general surgery, as well as in special operations which may come under the head of emergencies. The manual is an excellent one for the surgical student or intern, as a

supplement to round out what he learns by observation in the operating room. Many hints may also be assimilated by practitioners, which will be of value in office practice.

Cabot and Giles: Surgical Nursing

SURGICAL NURSING. By Hugh Cabot, M.D., C.M.G., F.A.C.S., Senior Consultant, Mayo Clinic, Rochester, Minn., and Mary Dodd Giles, B.S., R.N., Associate Professor of Nursing Education, Vanderbilt University. Illustrated. Philadelphia and London: W. B. Saunders Company, 1931. Price \$3.00.

This book, like others of the same kind which have appeared within the past few years appears to us to be aimed at "super-educating" the nurse, to lift her out of her true sphere and to be detrimental to the best interests of the public, of the physician and of the nurse herself.

The book in our opinion should have been written for surgical interns and, not for nurses, for which purpose it should prove decidedly valuable, as the matters presented are discussed in a simple, direct and practical manner.

De Garis: Obstetrics

THE THEORY OF OBSTETRICS: A Functional Study of Child-Bearing Based On A New Definition Of Normal Labour And On A New Theory Of Uterine Inertia, and Illustrated by a Detailed Statistical Analysis of 100 Consecutive Labours, and Some Records of Cases of Painless Labour. By M. C. De Garis, M.D., Author of "Clinical Notes and Deductions of a Peripatetic." New York: William Wood & Company, 1931. Price \$5.00.

The author considers that, fundamentally, were all conditions right, labor, as a physiologic process, should be painless. Pain has been accepted and expected as a part of normal labor, but it is not so necessarily.

The author gives a new definition of natural labor as one in which the uterine contractions act thoroughly efficiently, leading in a short time to the spontaneous delivery of a healthy baby and causing but little or no distress or suffering to the mother.

This unusual book is devoted to considerations as to why most ordinary labors depart more or less considerably from this standard, and the measures which should be taken to bring the natural function of child bearing up to it, which the author believes to be quite possible.

Cathcart: Chronic Deafness

THE TREATMENT OF CHRONIC DEAFNESS: By the Electro-phonoide Method of Zünd-Burguet. By George C. Cathcart, M.A., M.D., Consulting Surgeon to the Throat, Nose and Ear Hospital, Golden Square; Late Member of the Special Aural Board Ministry of Pensions. Second Edition. New York and London: Oxford University Press, Humphrey Milford, 1931. Price \$1.50.

The author has been a pioneer in the introduction of Zünd-Burguet electrophonoide meth-

od of treating chronic deafness into England. This book, which has now run to a second edition, is descriptive of the method and of the author's results with it.

The Zünd-Burguet procedure depends upon re-education of the sense of hearing by a series of sounds actuated in artificial larynges by electric currents. The author claims that by persistent exercises with the apparatus an improvement in hearing, of greater or less degree, is obtained in more than 60 percent of chronically deaf patients, in whom all other methods fail.

Clendening: Modern Methods of Treatment

MODERN METHODS OF TREATMENT. By Logan Clendening, M.D., Professor of Clinical Medicine, Lecturer of Therapeutics, Medical Department of the University of Kansas; Attending Physician, Kansas City General Hospital, etc. With Chapters on Special Subjects by H. C. Anderson, M.D.; J. B. Cowherd, M.D.; H. P. Kuhn, M.D.; Carl O. Rickter, M.D.; F. C. Neff, M.D.; E. H. Skinner, M.D.; and E. R. DeWeese, M.D. Fourth Edition. St. Louis: C. V. Mosby Company, 1931. Price \$10.00.

The third edition of Dr. Clendening's treatise on modern methods of treatment was reviewed in the December, 1929, number of *CLINICAL MEDICINE AND SURGERY*. The call for a fourth edition so quickly testifies to the popularity of the work.

In this fourth edition such selections have been made from recent medical literature as have been judged to be of value by the author, based on his experience and the scientific evidence. These include such matters as the newer treatments for the anemias, Calmette's vaccination for tuberculosis, the newer views on the treatment of undulant fever, etc.

The general plan and purpose of the book have not been changed. It remains a practical manual of accepted therapeutic methods which may be consulted with profit by every general practitioner and as a guide for the student.

Allen: Diseases of Children

HANDBOOK OF DISEASES OF INFANTS AND CHILDREN: For Students and Practitioners. By F. M. B. Allen, M.D., M.R.C.P. (Lond.), Assistant Physician to the Belfast Hospital for Sick Children; Physician in Charge of Infants, Belfast Maternity Hospital; Lecturer in *Materia Medica and Therapeutics*, Queen's University of Belfast. New York: William Wood and Company, 1930. Price \$5.00.

Every general practitioner must, at least to a certain extent, be a pediatrician, because the ailments of infants and children of necessity form a large proportion of his practice, even from the first days of his work as a doctor.

Dr. Allen's book has been specially written for the general practitioner and student. It is a practical, compendious manual which avoids theoretical discussions and deals only with accepted procedures in the handling of the various diseases which are usually, and sometimes specially, seen in infants and children. The author

or's long experience as a teacher and consultant on his subject has rendered him very fit to write a book of this kind.

The type is large and clear and the book-work excellent.

Ellis: Fountain of Life

FOUNTAIN OF LIFE. *Being the Impressions and Comments of Havelock Ellis.* Boston and New York: Houghton Mifflin Company, The Riverside Press Cambridge. 1930. Price \$4.00

When we speak of the value of sawdust and excelsior, we do so in terms of so much per ton; but when an artist tools a piece of fine gold, the chips which fall off are sold by the penny-weight.

The casual thoughts and opinions of most of us are of little real value to the thinker and of even less importance to others; but when "Earth's most highly civilized man"—the philosopher of love and life—turns his attention to any direction whatever, even the by-products of the operations upon the fine gold of such a mind are of very great worth.

In this volume are gathered together the three series of "Impressions and Comments," which the author calls "single jets of the spirit, which in their complexly woven sprays, make up the fountain of life." Each "expiration" is a single, isolated expression of the moment at which it arose, unchanged in substance from its original form, and showing, collectively, the immense erudition, versatility and human understanding and sympathy of one of the greatest souls now living among us.

Everyone who finds thinking the most thrilling avocation in life will be charmed and enriched by these potent and beautiful seeds for the growing of pastures, gardens and forests of the mind.

Liepmann: Gynecologic Seminar

DAS GYNAKOLOGISCHE SEMINAR; Praktische Gynäkologie mit besonderer Berücksichtigung der sozialen Frauenkunde in 15 Vorlesungen für Ärzte und Studierende. Von Dr. Wilhelm Liepmann, Universitätsprofessor, Direktor des Deutschen Instituts für Frauenkunde und der Frauenklinik "Cecilienhaus" zu Berlin. Mit 305 zum Teil mehrfarbigen Abbildungen im Text und auf 24 Tafeln. Berlin und Wien: Urban & Schwarzenberg. 1931. Price geh. RM 18.—geb. RM 20.50.

This work has been in preparation for several years. It is arranged in the form of 15 clinical presentations which cover the different aspects of gynecology. The book is well printed on good paper and is profusely illustrated, many of the plates being in color.

For physicians or students who read German this seminar gives the present-day aspects of gynecologic teaching and practice, as carried out in a high-class German clinic.

Rawling: Landmarks of the Human Body

LANDMARKS AND SURFACE MARKINGS OF THE HUMAN BODY. By L. Bathe Rawling, M.B., B.C., (Cant.), F.R.C.S., Surgeon to St. Bartholomew's Hospital. With Thirty-six Illustrations. Sixth Edition. New York: Paul B. Hoeber, Inc. 1927. Price \$3.00.

The fact that this handy little work has run into six editions with many reprintings is a sufficient recommendation of its excellence and of its need. Every practitioner and student of medicine has need of a book of this kind and should have in his mind, during all physical examinations, the prominent landmarks in the normal human body, so that he can readily locate, on the surface, the positions of the great nerves and blood vessels, as well as the organs of the thorax and abdomen.

Klemperer and Klemperer: Internal Medicine

NEUE DEUTSCHE KLINIK. Handwörterbuch der praktischen Medizin. Herausgegeben von Dr. Georg Klemperer und Prof. Dr. Felix Klemperer, Berlin. Sechster Band, Kropf-Magen- und Duodenalgeschwür. Mit 288 bildlichen Darstellungen im Text, auf 5 farbigen und 10 schwarzen Tafeln. Berlin und Wien: Urban & Schwarzenberg. 1930. Price, geh. RM 33.—; geb. RM 40.—.

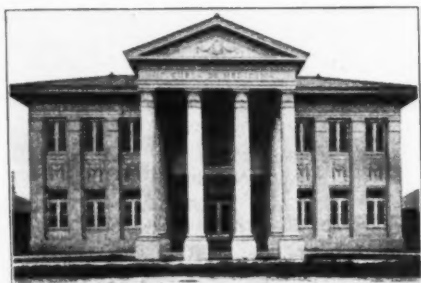
The sixth volume of this alphabetically arranged encyclopedia of internal medicine, including pediatrics and allied specialties, includes subjects from Kropf (goiter) to Magen—und Duodenalgeschwür (gastric and duodenal ulcers). The various articles are contributed by a large number of leading German specialists and the clinical treatments are practical and up to date. The mechanical features of the book are exceptionally fine, and the series should be of great value to physicians who read German.

Stuber & Lang: Blood Coagulation

DIE PHYSIOLOGIE UND PATHOLOGIE DER BLUTGERINNUNG. Von Prof. Dr. Bernhard Stuber, Direktor und Dr. Phil. et Med. Konrad Lang, Leiter des Laboratoriums der Städtischen Krankenanstalt in Kiel. Mit 4 Abbildungen im Text. Berlin & Wien: Urban & Schwarzenberg. 1930. Price RM 10.—.

This monograph on blood coagulation is divided into two parts: The first, the physiologic part discusses thrombin, thrombokinase and other substances concerned in coagulation. In the second, the clinical part, pathologic phenomena, such as thrombosis, hemophilia, etc., arising from disturbed coagulation processes are discussed. A large amount of experimental work by the author is detailed throughout the book.

MEDICAL NEWS



Gorgas Memorial Institute

The Gorgas Memorial Institute reports gratifying progress in its various activities. Ten newspapers have been added to the list of those regularly using its popular articles on personal health, written by physicians and dentists; the second annual Gorgas Essay Contest was highly successful; the mosquito control work is being extended; and, most encouraging of all, the Gorgas Memorial Laboratory (shown above), which was originally built for a medical school and was loaned to the Institute, has now been formally ceded to that organization by the Republic of Panama, so that the annual appropriation of \$50,000 by the United States Government is assured to the Laboratory in perpetuity.

Birth Control Review

It seems reasonably certain that birth control will play a prominent part in the progress of our civilization. Physicians should understand its indications and technique, so as to be able to give sound advice—and satisfactory literature is now available.

One of the most important jobs for the doctor, right now, is to educate the public to the point where people will understand and cooperate. For this purpose, a copy of *Birth Control Review* (152 Madison Ave., New York City) on the waiting-room table will help greatly. The Jan-

uary, 1931, issue will be especially valuable, as it contains the opinions of many prominent medical men on this subject. This is a journal of propaganda, not of technic, and should be widely circulated among laymen.

Dr. Lowell Passes

Dr. Paul M. Lowell, senior medical officer, Food and Drug Administration, Department of Agriculture, passed to his rest Jan. 3, 1931, at the age of 44 years.

Dr. Lowell had a wide experience in public health work in various countries, including the Philippine Islands, Russia and Siam. He was connected with the Bureau of Science, in Manila, and was chief of the leper colony. For some time before his death he was in charge of the preparation of court cases based upon fraudulent therapeutic claims for drugs and medicines.

Coming Meetings

The American Orthopedic Association will meet at Memphis, Tenn., April 15 to 18. Dr. De Forest P. Willard, 1916 Spruce St., Philadelphia, Secretary.

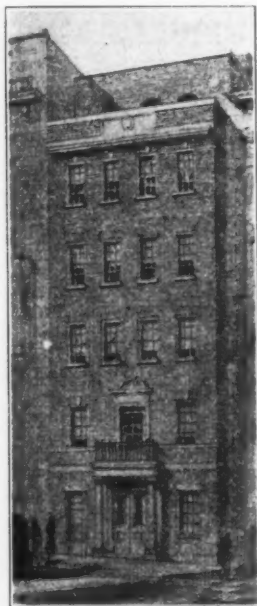
The American Pediatric Society will meet at Edgewater Park, Miss., April 15 to 17. Dr. H. C. Carpenter, 1805 Spruce St., Philadelphia, Secretary.

Canadian and European Postgraduate Tour

The Interstate Postgraduate Medical Association of North America is sponsoring a two-section clinical tour this year: first to Canada (Toronto and Montreal), leaving Chicago May 10; and then to Europe, the British Isles, Holland, France and Belgium, leaving Montreal May 15 and due back in New York June 11. Clinics, lectures and sightseeing have been arranged all along

the line. This is a fine chance to combine a needed vacation with excellent clinical instruction.

For full information, write to Dr. Wm. B. Peck, Freeport, Ill.



The Montague Hospital.

Hospital for Intestinal Diseases

What purports to be the first hospital in the United States devoted entirely to the treatment of intestinal diseases has recently been opened in New York. It is known as the Montague Hospital for Intestinal Ailments, and its medical director is Dr. J. F. Montague, whose articles appear frequently in this journal.

Postgraduate E. N. T. Course

The eighth annual postgraduate course in the oto-rhino-laryngological department, University of Bordeaux, France, com-

mences July 27, 1931. This is a five-weeks intensive course for American physicians, given in English under the general guidance of Prof. Georges Portmann. Plastic, sinus, trans-maxillary, laryngoscopy, esophagoscopy and tongue surgery are the subjects studied.

The course is limited to twelve physicians who act as assistants to Prof. Portmann in this interesting operative course.

For particulars write to Leon Felderman, M.D., 413 Mitten Building, Philadelphia, Pa.

Dr. Thorek at Shreveport

Dr. Max Thorek, Chicago, spoke before the Tri-State Medical Society at Shreveport, La., in March, on "Possibilities in Reconstructing the Human Form," with moving pictures.

United States Civil Service Examinations

United States Civil Service Commission announces the following-named open competitive examinations:

Dietitian

Applications must be on file with the U. S. Civil Service Commission at Washington, D. C., not later than April 15, 1931. The examination is to fill vacancies in the U. S. Public Health Service and U. S. Veterans' Administration.

Social Worker (Psychiatric) Junior Social Worker

Applications will be rated as received by the U. S. Civil Service Commission at Washington, D. C., until June 30, 1931.

The examinations are to fill vacancies in the Veterans' Administration hospitals and regional offices.

Full information may be obtained from the Secretary of the United States Civil Service Board of Examiners at the post office or customhouse in any city or from the United States Civil Service Commission, Washington, D. C.

Send For This Literature

To assist doctors in obtaining current literature published by manufacturers of equipment, pharmaceuticals, physician's supplies, foods, etc., CLINICAL MEDICINE and SURGERY, North Chicago, Ill., will gladly forward request for such catalogues, booklets, reprints, etc., as are listed from month to month in this department. Some of the material now available in printed form is shown below, each piece being given a key number. For convenience in ordering, our readers may use these numbers and simply send requests to this magazine. Our aim is

to recommend only current literature which meets the standards of this paper as to reliability and adaptability for physicians' use.

Both the literature listed below and the service are free. In addition to this, we will gladly furnish such other information as you may desire regarding additional equipment or medical supplies. Make use of this department.

When requesting literature, please specify whether you are a doctor of medicine, dentistry, medical student, a registered pharmacist, or a nurse.

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| M- 3 | Storm Binder and Abdominal Supporter. 4-page folder by Dr. Katherine L. Storm. | M-318 | Blood Clinical and Laboratory Diagnosis. A book of 160 pages by Henry Irving Berger, M.D. Battle & Company. |
| M- 45 | Vera-Perles of Sandelwood Comp. Paul Plessner Co. | M-347 | Graphic Chart of the Treatment of Circulatory Disturbances. Merck & Company. |
| M- 47 | Campho-Phenique in Major and Minor Surgery. Campho-Phenique Company. | M-354 | Getting the Most Out of Life. Stanco, Inc. |
| M- 95 | Everything for the Sick. Lindsay Laboratories. | M-374 | Table for Determining Date of Delivery. The Viburno Company, Inc. |
| M-116 | Hemo-Glycogen, The New Product Hemoglobin Compound and Liver Extract. Chappel Bros., Inc. | M-383 | Syrup Histosan Controls the Cough in Acute and Chronic Bronchitis, Pneumonia and other Pulmonary Diseases. Ernst Bischoff Co., Inc. |
| M-120 | Building Resistance — Guiatonic. William R. Warner & Co., Ltd. | M-391 | Imhotep. Egyptian Medicine Was a Quaint Mixture of Rationalism and Magic — Agarol. William R. Warner & Co., Inc. |
| M-196 | "Facts Worth Knowing." Intravenous Products Co. of America, Inc. | M-392 | Arthritis. Its Classification and Treatment. Battle & Co. |
| M-258 | Prophylaxis. August E. Drucker Co. | M-401 | When the Cross Roads are Reached in Hemorrhoids (Piles). Schering & Glatz, Inc. |
| M-269 | Special Course No. VI Traumatic Surgery. Illinois Post Graduate Medical School, Inc. | M-402 | The First Question—Agarol. Wm. R. Warner & Co., Inc. |
| M-271 | The Intestinal Flora. The Battle Creek Food Company. | M-404 | Urotropin, the Intravenous Administration of the Original Formaldehyde-Liberating Urinary and Systemic Antiseptic. Schering & Glatz. |
| M-292 | Acidosis and Infection—Alka Zane, William R. Warner & Co., Inc. | M-410 | Acidosis. A Warning Sign in Pregnancy—Alka-Zane. Wm. R. Warner & Co., Inc. |
| M-310 | Conclusions from published research of the value of Ceanothyn as a hemostatic. Flint, Eaton & Co. | | |

- M-414 Laboratory Test in Pictures—Silvogan. Ernst Bischoff Company, Inc.
- M-425 Cerebrospinal Fever (Epidemic, Cerebrospinal Meningitis, Meningococcic Meningitis, Spotted Fever), Symptoms and Specific Treatment with Anti-Meningococcic Serum. The National Drug Co.
- M-443 AbilenA. Its Location, Discovery, Origin, Chemistry, Medicinal or Clinical Value and Uses. The AbilenA Co.
- M-446 Dependable Products, Pan-Secretin Co. Adreno-Spermin Co., Lydin and Pancreas Co. The Harrower Laboratory, Inc.
- M-449 General Catalog of Medicinal Chemicals. Bilhuber-Knoll Corp.
- M-455 AbilenA. The Ideal Cathartic Water. The AbilenA Co.
- M-456 Science Applied to Tobacco. Health Cigar Company, Inc.
- M-465 Diagnosis of Cardio-Vascular Diseases, by Henry Irving Berger, M.D. Sultan Drug Company.
- M-471 Potassium Thiocyanate in the Treatment of Arterial Hypertension (Primary). Sutliff & Case Co.
- M-473 The New "Universal" Post Cautery. Post Electric Company, Inc.
- M-478 Diatussin in the Treatment of Whooping Cough and Other Spasmodic Coughs. Ernst Bischoff Co., Inc.
- M-480 The Incidence of Eczema in Skin Diseases in about 20 percent. Bilhuber-Knoll Corp.
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- M-490 Are Your Patients All at Sea? Detoxol Paste. The Wm. S. Merrell Company.
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- M-524 Balance, the Importance of the Acid-Base Equilibrium of the Body. The BiSoDol Company.
- M-525 The Treatment of Hemorrhage with Therapeutic Notes on the Use of Ceanothyn. Flint, Eaton & Company.
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- M-532 The New Quartz Arc Lamp by Burdick. Burdick Corporation.